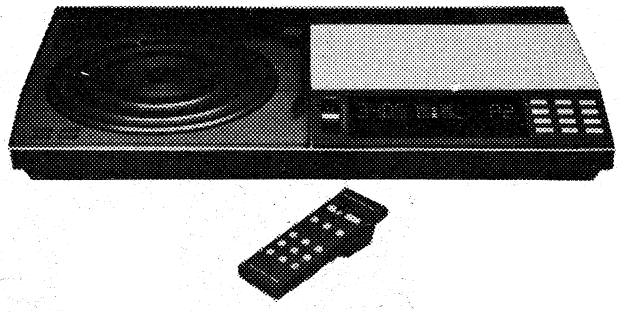
Bang&Olufsen



Beocenter 7000

Type 1801

SERVICE MANUAL

Bang&Olufsen

CONTENTS

	Section
Circuit diagrams and PC boards	1
Survey of transistors, IC's and diodes	2
Electrical parts list	3
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MEASURING CONDITIONS

All DC voltages are measured relative to ground with voltmeter (inner resistance 10 Mohms).
DC voltages are stated in volts (V), ex.: 0.7 V.
Oscillograms and AC voltages are measured relative to signal ground with oscilloscope or voltmeter with an input resistance of 1 Mohm.
AC voltages are stated in millivolt (mV), ex.: 725 mV.
Voltages on the FM, AM
and remote section are measured without signal in position P6 – FM.
Voltages on the turntable section are measured in position PH (33 r.p.m.).
Voltages on the tape recorder section are measured in position TP, play back, (333 Hz, 250 pWb mm).
Oscillograms in the remote control receiver are measured with a signal transmitted from the control module at a distance of approx. 0.5 m.
Signal paths are shown for AM (position MW), FM, remote control, and for AF right channel.
The tape recorder signal path in recording position is shown in right channel, and replay position is shown in left channel.
Mechanical switches are shown in neutral position.

EXPLANATION TO DIAGRAM

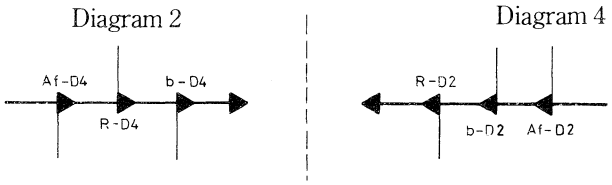
Because of the large number of internal connections in the set the wire connections have been gathered into »bundles« in the diagram. The individual wire is provided with codes indicating where they lead to.
This principle is also applied in Bang & Olufsen's CTV diagrams.

INTERNAL CONNECTION ON A DIAGRAM PAGE



indicating by two identical letters (capital or small).

CONNECTION TO ANOTHER DIAGRAM PAGE



indicated by a letter (capital or small) and a diagram (D) number or by a small and a capital letter together with a diagram (D) number.

GROUND SYMBOLS
Three different ground symbols are used in the set.



= ground (motors, display, magnet coils, etc.)

= signal ground

= chassis

TP0
In the power supply on PC3 is stated a ground test point TP0. In this and only in this test point , and are connected to each other.
TP0 may therefore be used as reference for both DC measurings and signals measurings in the set. However, in connection with fault finding on the various modules the ground of the module in question should always be used as reference.
TP0 is used as reference at measurings of DC voltages from the power supply (PC3 - 4).

CO-ORDINATE NUMBERS
The biggest PC boards are provided with co-ordinate systems. The components on these PC boards are provided with a co-ordinate number on the diagram (smaller printing type than the position numbers) indicating in which co-ordinate they are placed on the PC board.
The co-ordinate numbers for the left channel of the output amplifier are stated in brackets in the diagram for right channel.

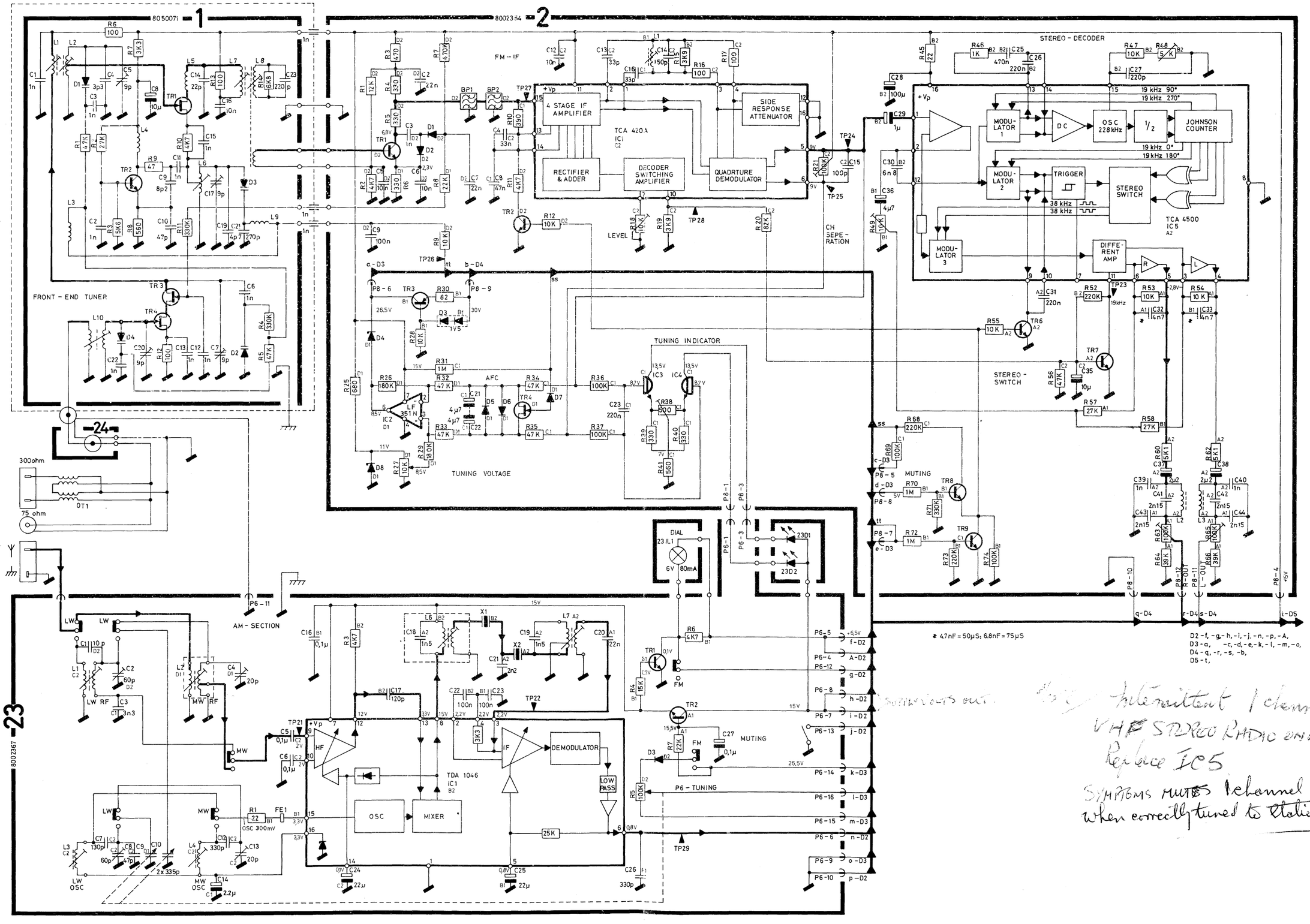
Symbol for safety resistors



When replacing components with this symbol use the same type and the same values for ohms and watts. The new components is to be mounted in the same way as the replaced.

Bang&Olufsen

DIAGRAM 1



Suppressors out. to [illegible] transmitter 1 channel
VHF STEREO RADIO ONLY
Replace IC5
SYMPTOMS MUTES 1 channel
when correctly tuned to station only

DIAGRAM 2

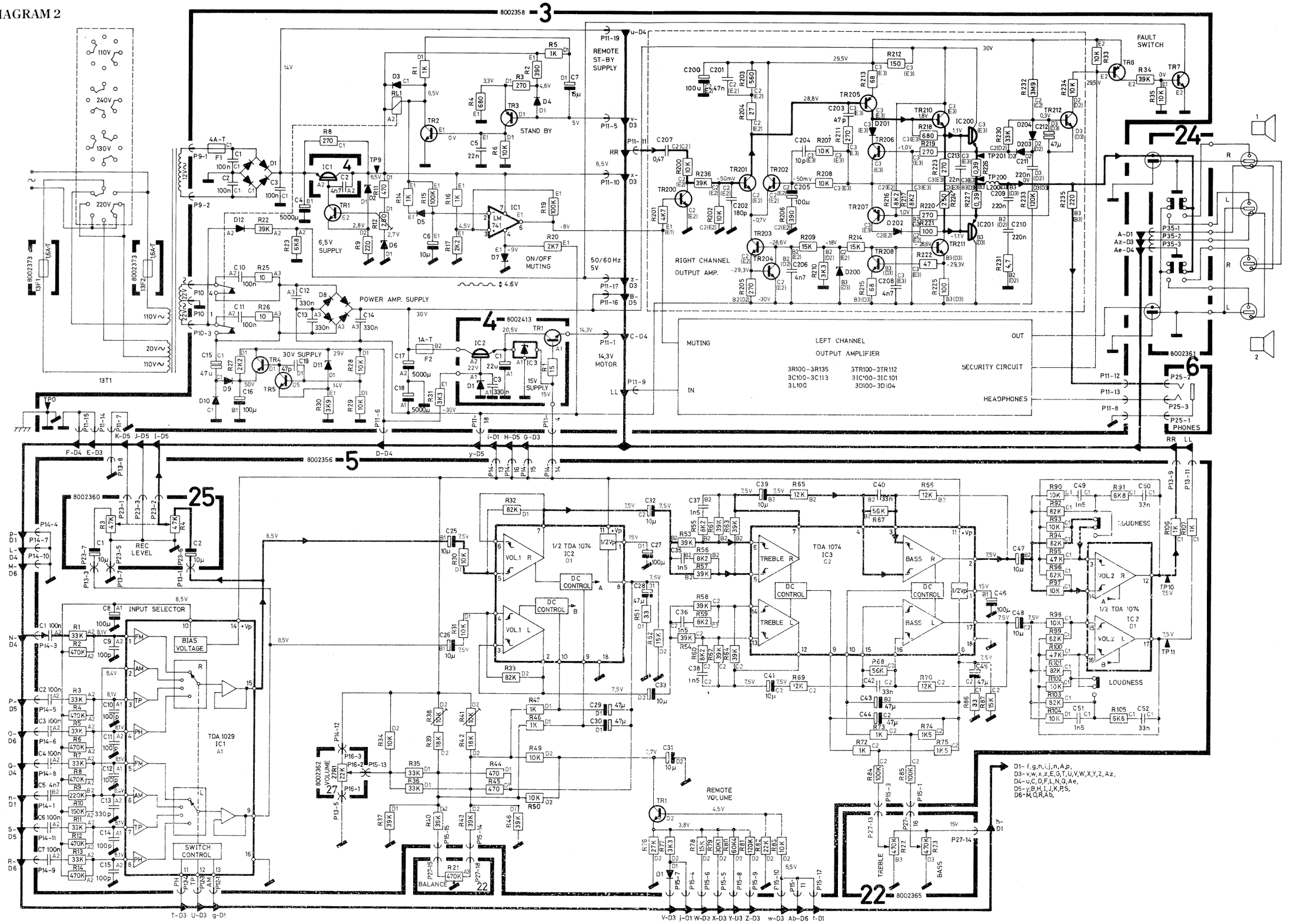

8002358 -3
8002356 -5
8002360 -25
8002413 -4
8002361 -6
8002365 -22
REMOTE ST-BY SUPPLY
STAND BY
6,5V SUPPLY
ON/OFF MUTING
POWER AMP. SUPPLY
30V SUPPLY
15V SUPPLY
14,3V MOTOR
50/60 Hz 5V
RIGHT CHANNEL OUTPUT AMP.
LEFT CHANNEL OUTPUT AMPLIFIER
3R100-3R135
3C100-3C113
3L100
3TR100-3TR112
3C100-3C101
3D100-3D104
MUTING
IN
OUT
SECURITY CIRCUIT
HEADPHONES
FAULT SWITCH
REC LEVEL
INPUT SELECTOR
BIAS VOLTAGE
SWITCH CONTROL
TDA 1029 IC1 A1
1/2 TDA 1074 IC2 D1
TDA 1074 IC3 C2
VOL.1 R
VOL.1 L
VOL.2 R
VOL.2 L
TREBLE R
TREBLE L
BASS R
BASS L
DC CONTROL
LOUDNESS
REMOTE VOLUME
BALANCE
TREBLE
BASS
D1- f,g,n,i,j,n,A,P,
D3- v,w,x,z,E,G,T,U,V,W,X,Y,Z,Az,
D4- u,C,D,F,L,N,Q,Ae,
D5- y,B,H,I,J,K,P,S,
D6- M,O,R,Ab,

DIAGRAM 3

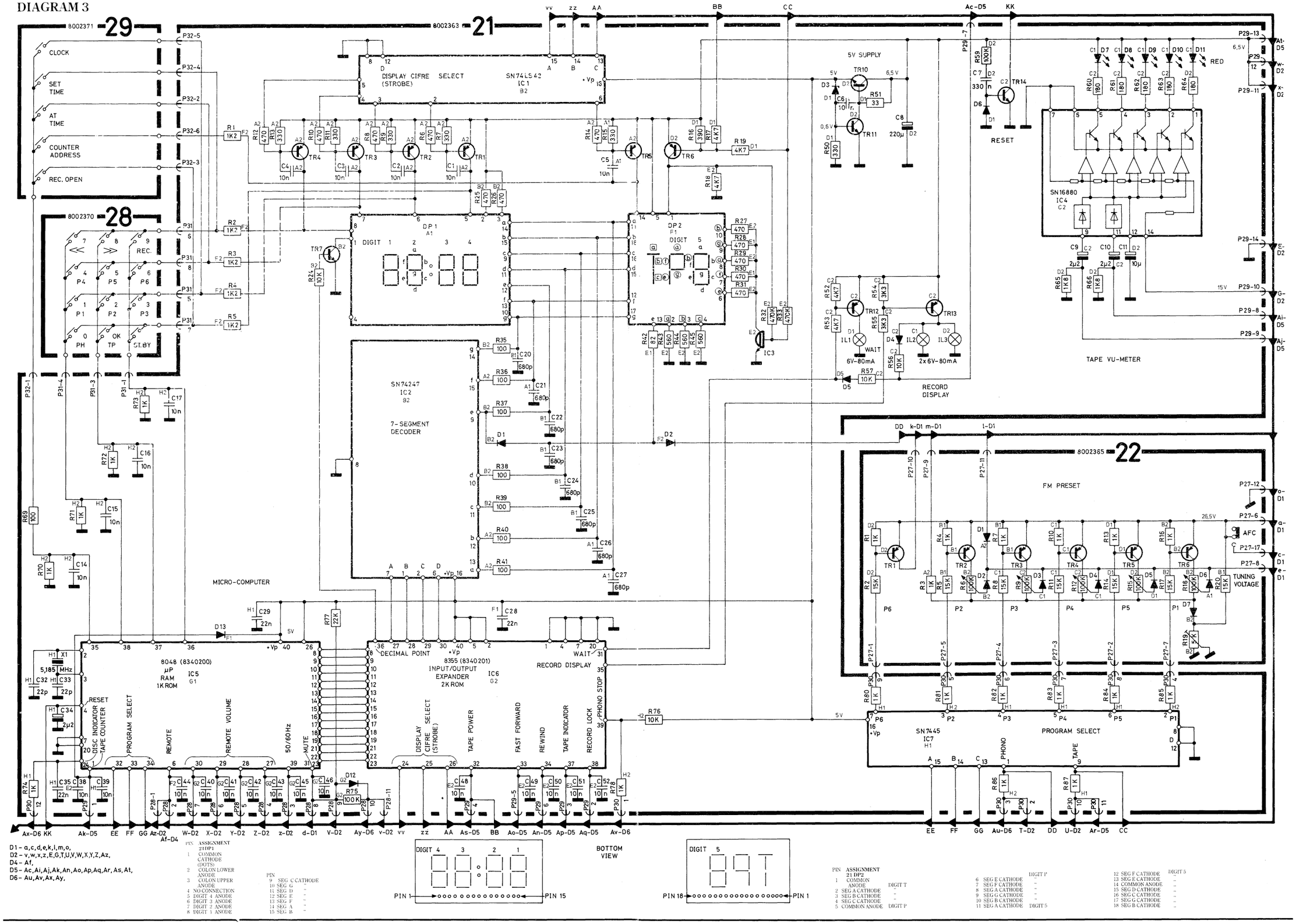
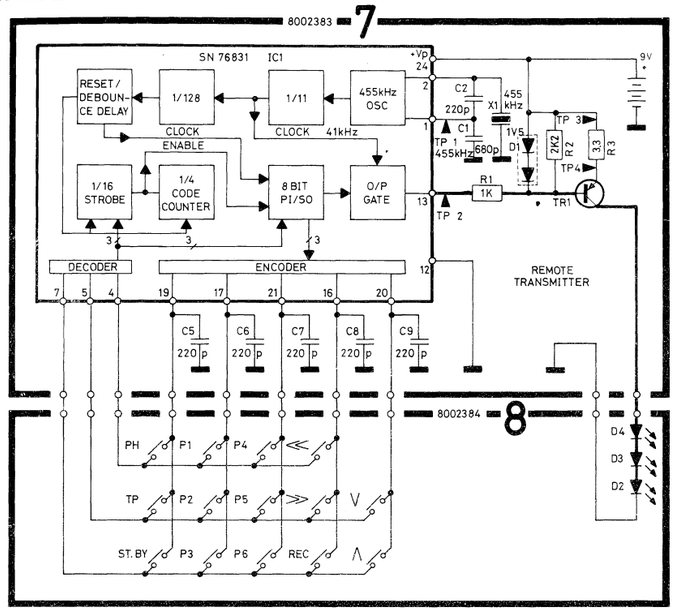
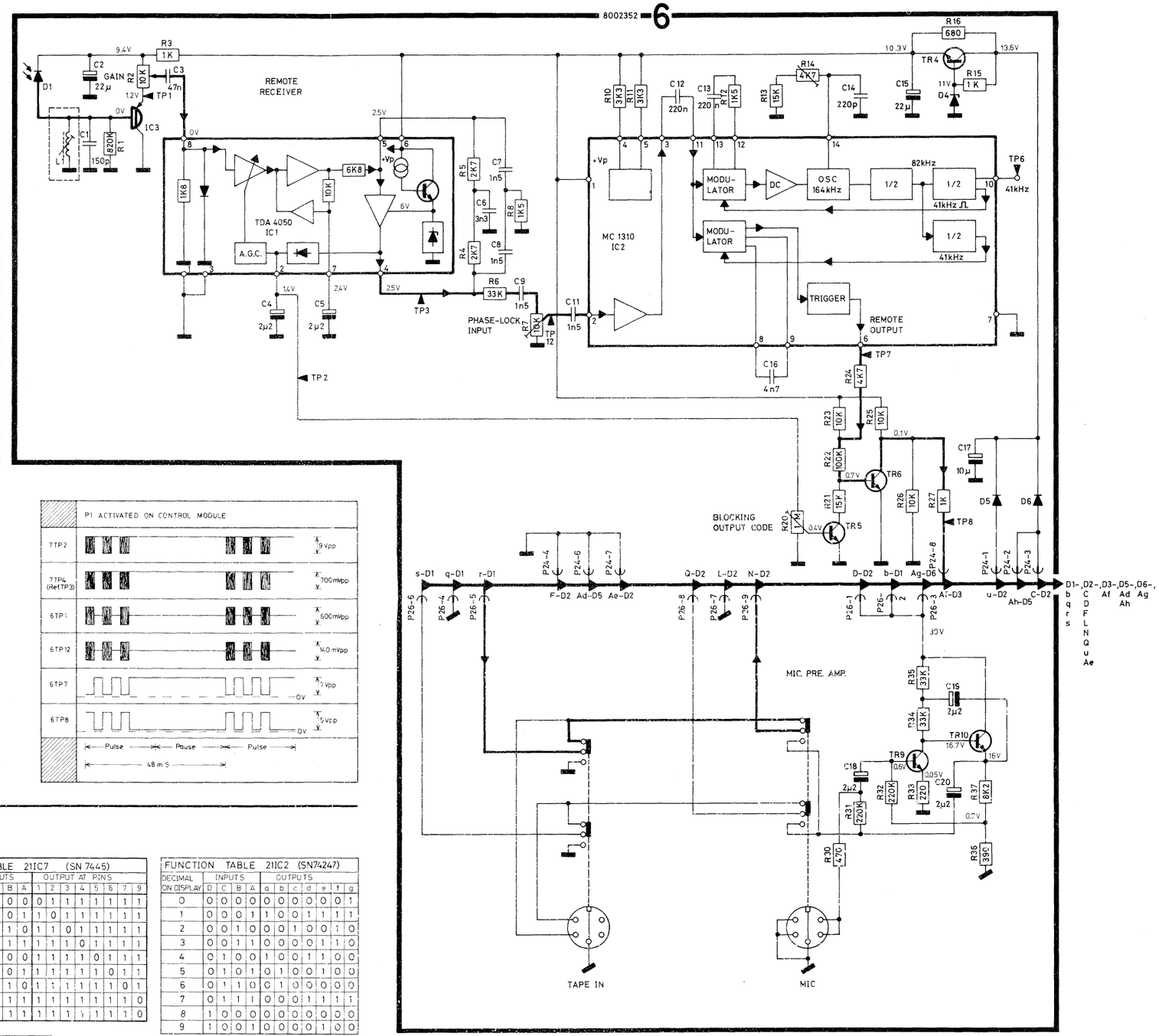

8002371 29
CLOCK
SET TIME
AT TIME
COUNTER ADDRESS
REC. OPEN
8002370 28
REC.
P4
P5
P6
P1
P2
P3
0 PH
OK TP
ST.BY
8002363 21
DISPLAY CIFRE SELECT (STROBE)
SN74LS42 IC1 B2
DP1 A1
DP2 F1
DIGIT 1 2 3 4
DIGIT 5
SN74247 IC2 B2
7-SEGMENT DECODER
MICRO-COMPUTER
8048 (8340200) µP RAM 1K ROM IC5 G1
8355 (8340201) INPUT/OUTPUT EXPANDER 2K ROM IC6 G2
5V SUPPLY
RESET
RED
SN16880 IC4 C2
TAPE VU-METER
RECORD DISPLAY
WAIT 6V-80mA
2x6V-80mA
8002365 22
FM PRESET
TUNING VOLTAGE
AFC
SN7445 IC7 H1
PROGRAM SELECT
PHONO
TAPE
DECIMAL POINT
RECORD DISPLAY
DISC INDICATOR
TAPE COUNTER
PROGRAM SELECT
REMOTE
REMOTE VOLUME
50/60Hz
MUTE
DISPLAY CIFRE SELECT (STROBE)
TAPE POWER
FAST FORWARD
REWIND
TAPE INDICATOR
RECORD LOCK
PHONO STOP
RESET
5,185 MHz
D1 - a,c,d,e,k,l,m,o,
D2 - v,w,x,z,E,G,T,U,V,W,X,Y,Z,Az,
D4 - Af,
D5 - Ac,Ai,Aj,Ak,An,Ao,Ap,Aq,Ar,As,At,
D6 - Au,Av,Ax,Ay,
PIN ASSIGNMENT 21 DP1
1 COMMON CATHODE (DOTS)
2 COLON LOWER ANODE
3 COLON UPPER ANODE
4 NO CONNECTION
5 DIGIT 4 ANODE
6 DIGIT 3 ANODE
7 DIGIT 2 ANODE
8 DIGIT 1 ANODE
9 SEG C CATHODE
10 SEG G "
11 SEG D "
12 SEG E "
13 SEG F "
14 SEG A "
15 SEG B "
BOTTOM VIEW
PIN ASSIGNMENT 21 DP2
1 COMMON ANODE
2 SEG A CATHODE DIGIT T
3 SEG B CATHODE "
4 SEG C CATHODE "
5 COMMON ANODE DIGIT P
6 SEG E CATHODE "
7 SEG F CATHODE "
8 SEG A CATHODE "
9 SEG G CATHODE "
10 SEG B CATHODE "
11 SEG A CATHODE DIGIT 5
12 SEG F CATHODE DIGIT 5
13 SEG E CATHODE "
14 COMMON ANODE "
15 SEG D CATHODE "
16 SEG C CATHODE "
17 SEG G CATHODE "
18 SEG B CATHODE "

DIAGRAM 4





CONTROL MODULE	PINS SHORTED ON 7IC1								OUTPUT CODE FROM 7IC1 START							
FUNCTION	4	5	7	16	17	19	20	21								
V		X					X		1	1	0	1	0	1	0	0
Λ			X				X		1	1	0	1	0	0	1	0
<<	X			X					1	1	0	0	1	0	0	0
>>		X		X					1	1	0	0	0	1	0	0
REC.			X	X					1	1	0	0	0	0	1	0
P4	X							X	1	0	1	1	1	0	0	0
P5		X						X	1	0	1	1	0	1	0	0
P6			X					X	1	0	1	1	0	0	1	0
P1	X				X				1	0	1	0	1	0	0	0
P2		X			X				1	0	1	0	0	1	0	0
P3			X		X				1	0	1	0	0	0	1	0
PH	X					X			1	0	0	1	1	0	0	0
TP		X				X			1	0	0	1	0	1	0	0
ST-BY			X			X			1	0	0	1	0	0	1	0

FUNCTION TABLE FOR DIAGRAM 3

FUNCTION TABLE MICRO-COMPUTER

CONDITIONS 21IC5	CONDITIONS 21IC6	CONDITIONS 21IC6	FUNCTION	RESULTS 21IC5 27	28	29	30	31	32	33	34	21IC6 32	33	34	35	39
PIN 24	37	35														
0			PHONO					1	0	0	0	1	1	1	1	0
			P1					1	1	0	0	1	1	1	1	1
			P2					1	0	1	0	1	1	1	1	1
			P3					1	1	1	0	1	1	1	1	1
			P4					1	0	0	1	1	1	1	1	1
			P5					1	1	0	1	1	1	1	1	1
			P6					1	0	1	1	1	1	1	1	1
	1		TAPE					1	1	1	1	0	0	0	1	1
			STAND BY					0	1	1	1	1	1	1	1	1
		1	REC. OPEN													
	1		COUNTER ADDR.									0	1	1		
			P1-REC. PAUSE					1	1	0	0	0	1	1	0	1
			P1-REC.					1	1	0	0	0	0	0	0	1
	1		>>									0	0	1	1	
	1		<<									0	1	0	1	
			MIN. VOL.(Remote)	0	0	0	0									
			MAX. VOL.(Remote)	1	1	1	1									

FUNCTION TABLE 21IC7 (SN 7445)

FUNCTION	INPUTS D	C	B	A	OUTPUT AT PINS 1	2	3	4	5	6	7	9
PHONO	0	0	0	0	0	1	1	1	1	1	1	1
P1	0	0	0	1	1	0	1	1	1	1	1	1
P2	0	0	1	0	1	1	0	1	1	1	1	1
P3	0	0	1	1	1	1	1	0	1	1	1	1
P4	0	1	0	0	1	1	1	1	0	1	1	1
P5	0	1	0	1	1	1	1	1	1	0	1	1
P6	0	1	1	0	1	1	1	1	1	1	0	1
TAPE	0	1	1	1	1	1	1	1	1	1	1	0
ST-BY	0	1	1	1	1	1	1	1	1	1	1	1

FUNCTION TABLE 21IC2 (SN74247)

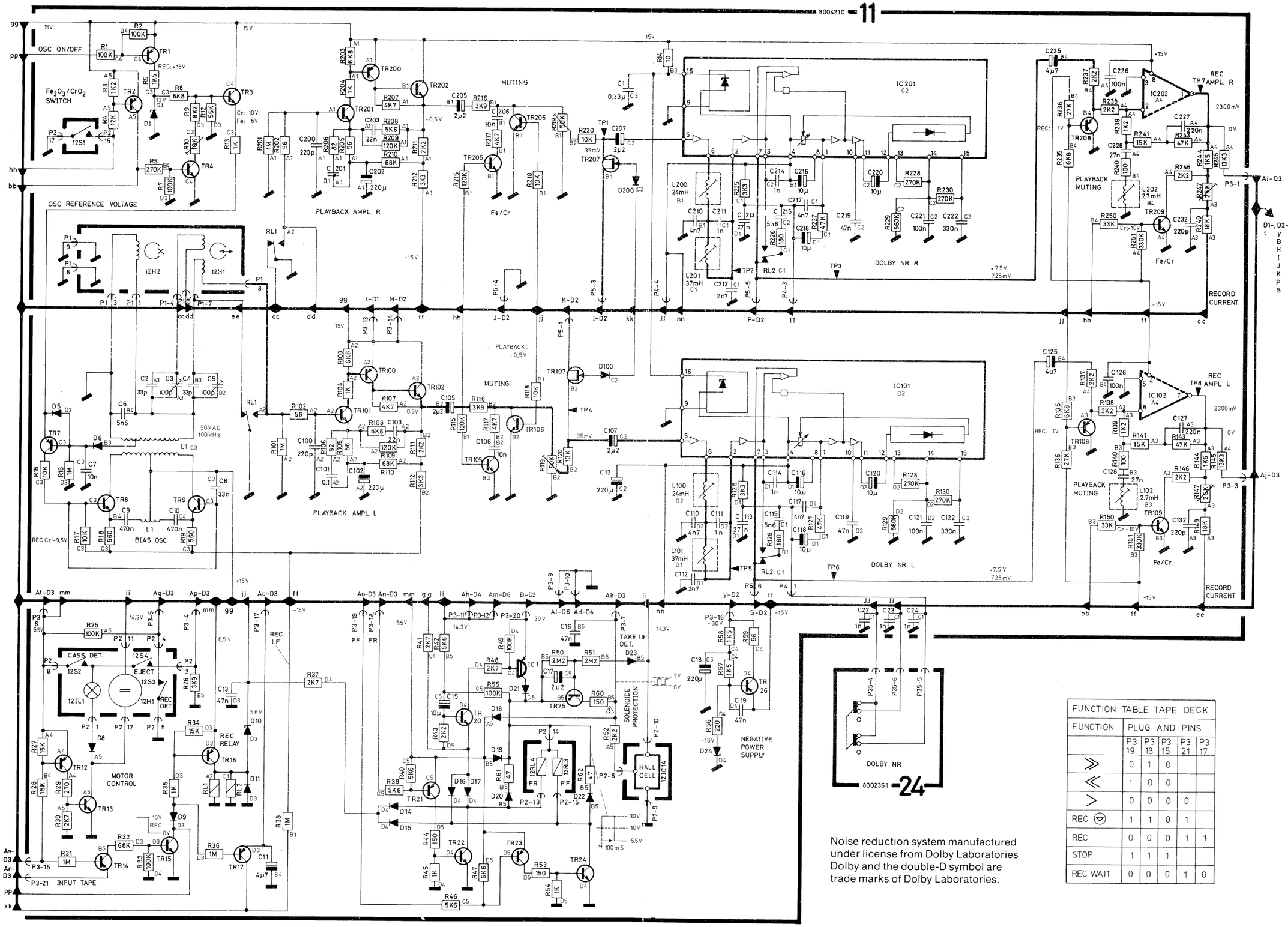
DECIMAL ON DISPLAY	INPUTS D	C	B	A	OUTPUTS a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	1	1	0	0	1	1	1	1
2	0	0	1	0	0	0	1	0	0	1	0
3	0	0	1	1	0	0	0	0	1	1	0
4	0	1	0	0	1	0	0	1	1	0	0
5	0	1	0	1	0	1	0	0	1	0	0
6	0	1	1	0	0	1	0	0	0	0	0
7	0	1	1	1	0	0	0	1	1	1	1
8	1	0	0	0	0	0	0	0	0	0	0
9	1	0	0	1	0	0	0	0	1	0	0

FUNCTION TABLE 21IC1 (SN74LS42)

INPUTS D	C	B	A	OUTPUT AT PINS 2	3	4	5	6
0	0	0	1	0	1	1	1	1
0	0	1	0	1	0	1	1	1
0	0	1	1	1	1	0	1	1
0	1	0	0	1	1	1	0	1
0	1	0	1	1	1	1	1	0

DIAGRAM 5

8004210 — 11

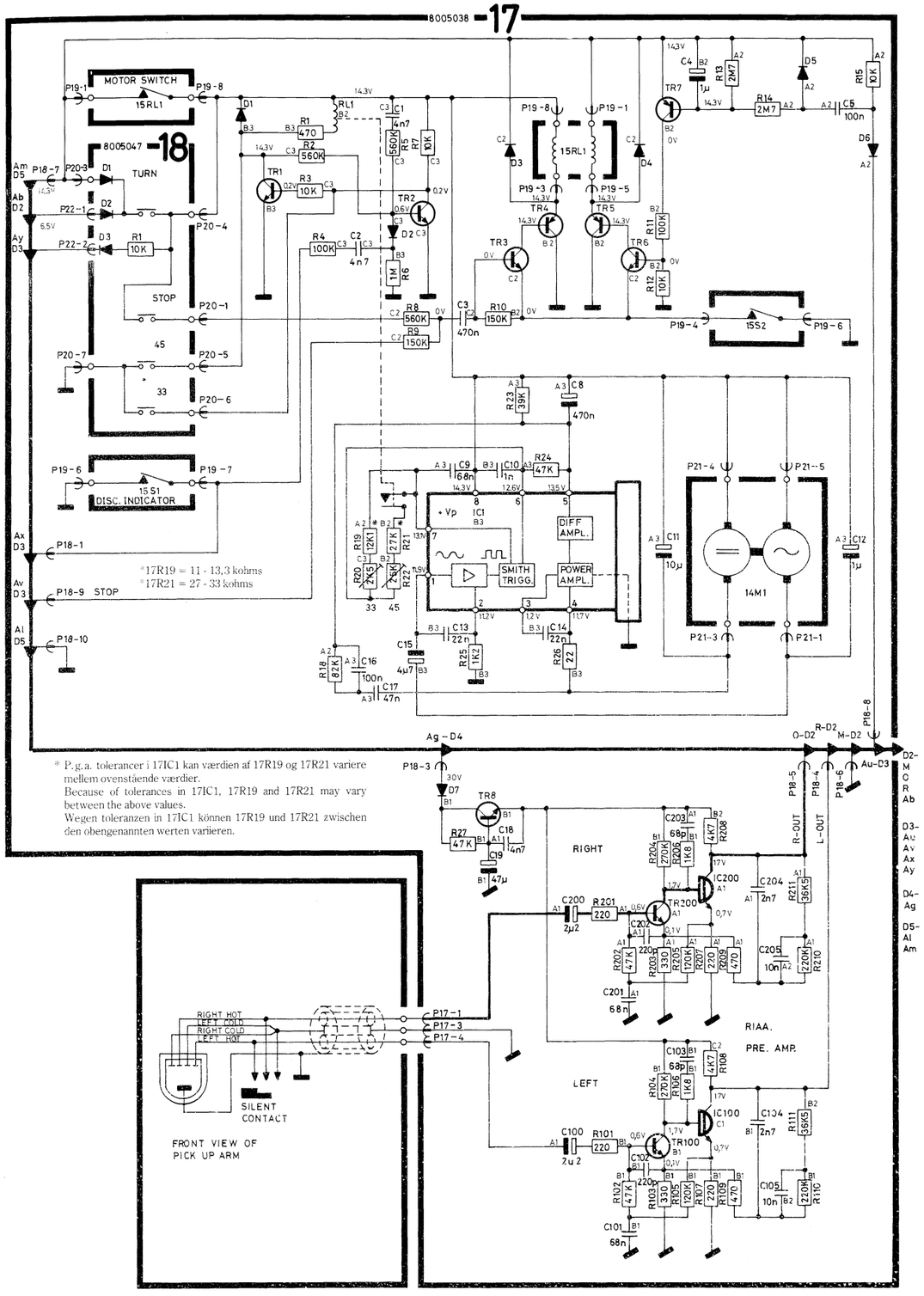


FUNCTION TABLE TAPE DECK						
FUNCTION	PLUG AND PINS					
	P3 19	P3 18	P3 15	P3 21	P3 17
≫	0	1	0		
≪	1	0	0		
>	0	0	0	0	
REC ⊜	1	1	0	1	
REC	0	0	0	1	1
STOP	1	1	1		
REC WAIT	0	0	0	1	0

Noise reduction system manufactured under license from Dolby Laboratories Dolby and the double-D symbol are trade marks of Dolby Laboratories.

8002361 — 24

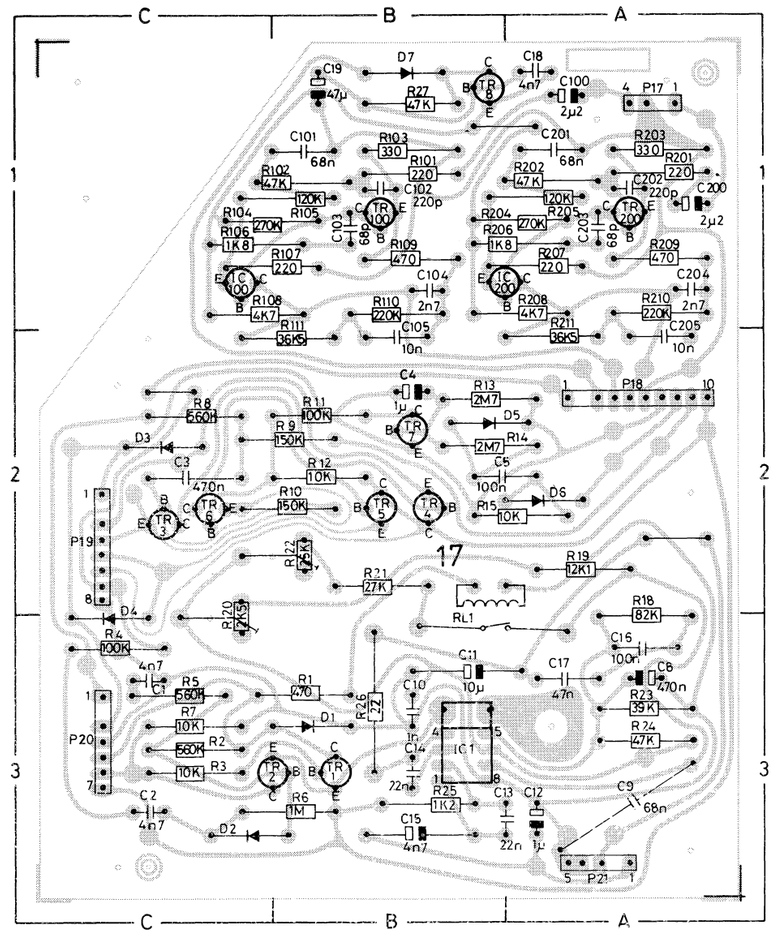
DIAGRAM 6



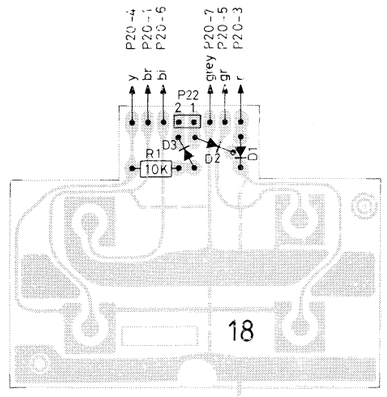
* P.g.a. tolerancer i 17IC1 kan værdien af 17R19 og 17R21 variere mellem ovenstående værdier.
Because of tolerances in 17IC1, 17R19 and 17R21 may vary between the above values.
Wegen toleranzen in 17IC1 können 17R19 und 17R21 zwischen den obengenannten werten variieren.

Phono, 8005038, PC 17

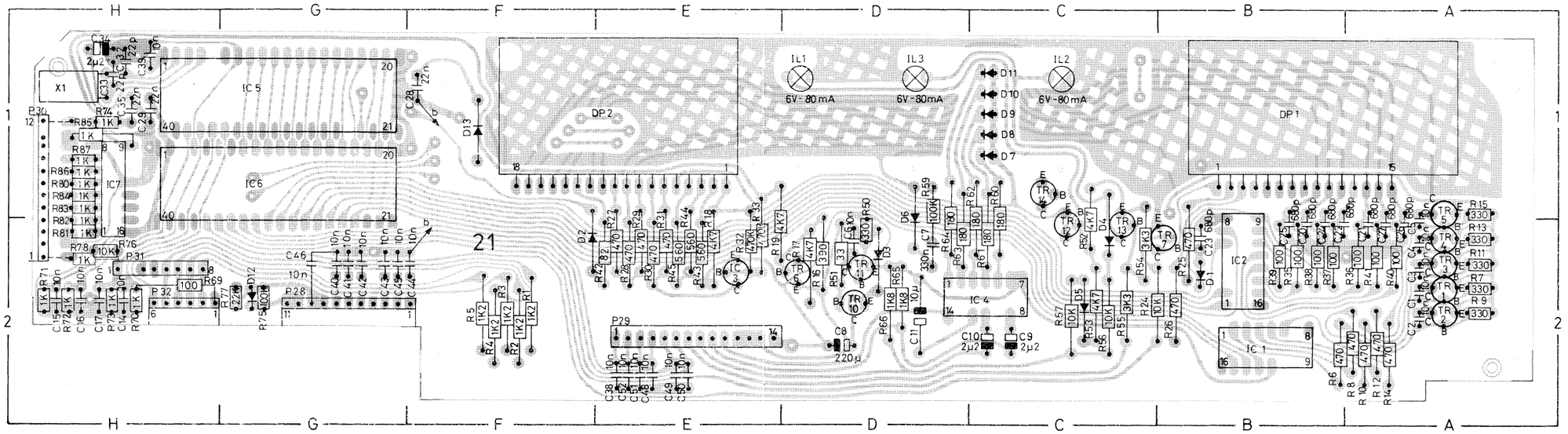
PC drawings are seen from copperfoil side



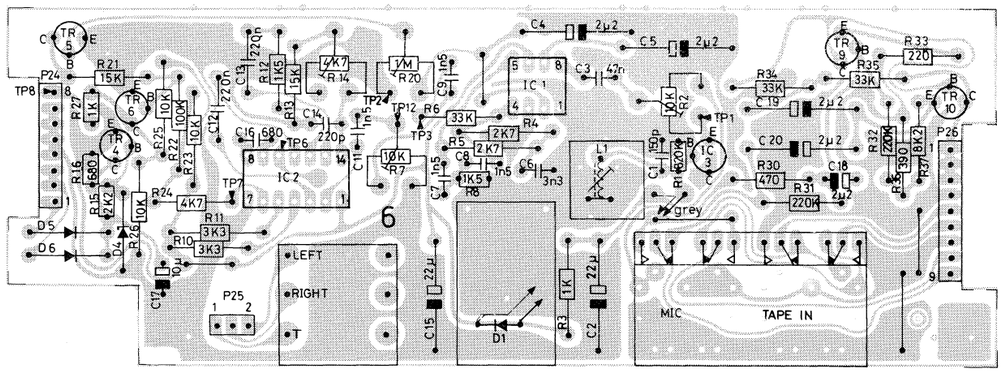
Phono keyboard, 8005047, PC 18



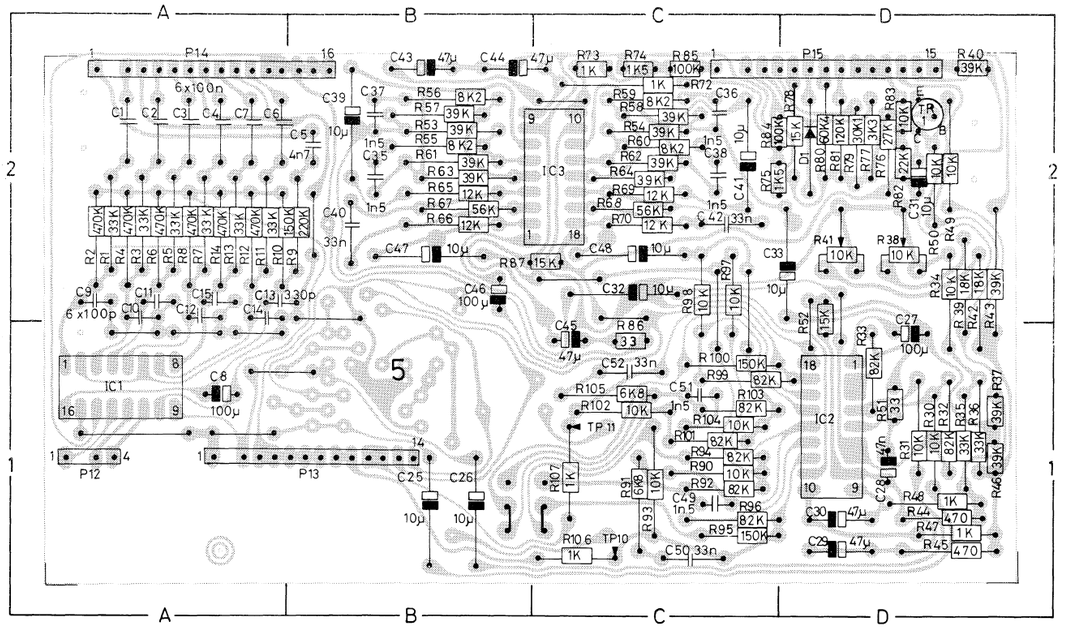
Microcomputer and display, 800363, PC 21



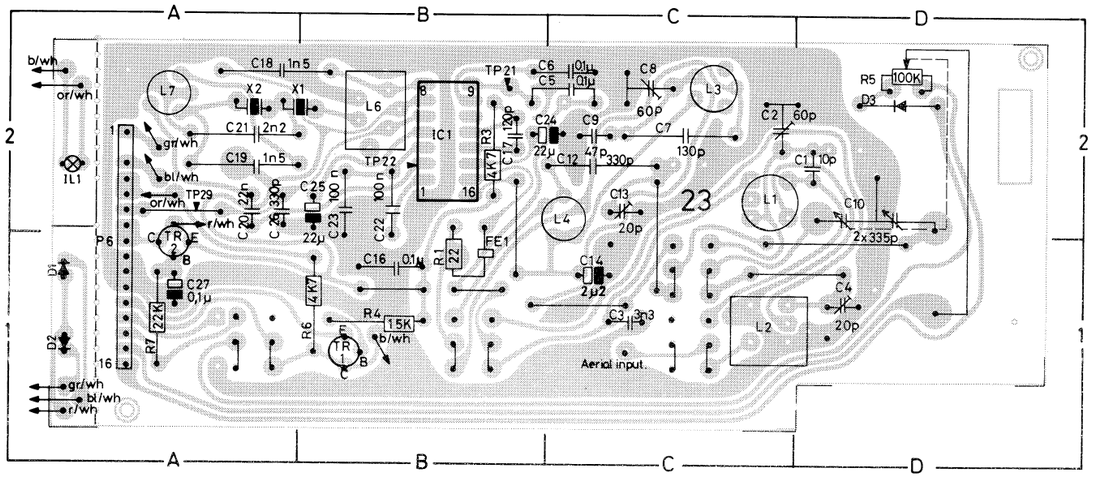
Remote, 8002352, PC 6



Volume and Tone Control, 8002356, PC 5



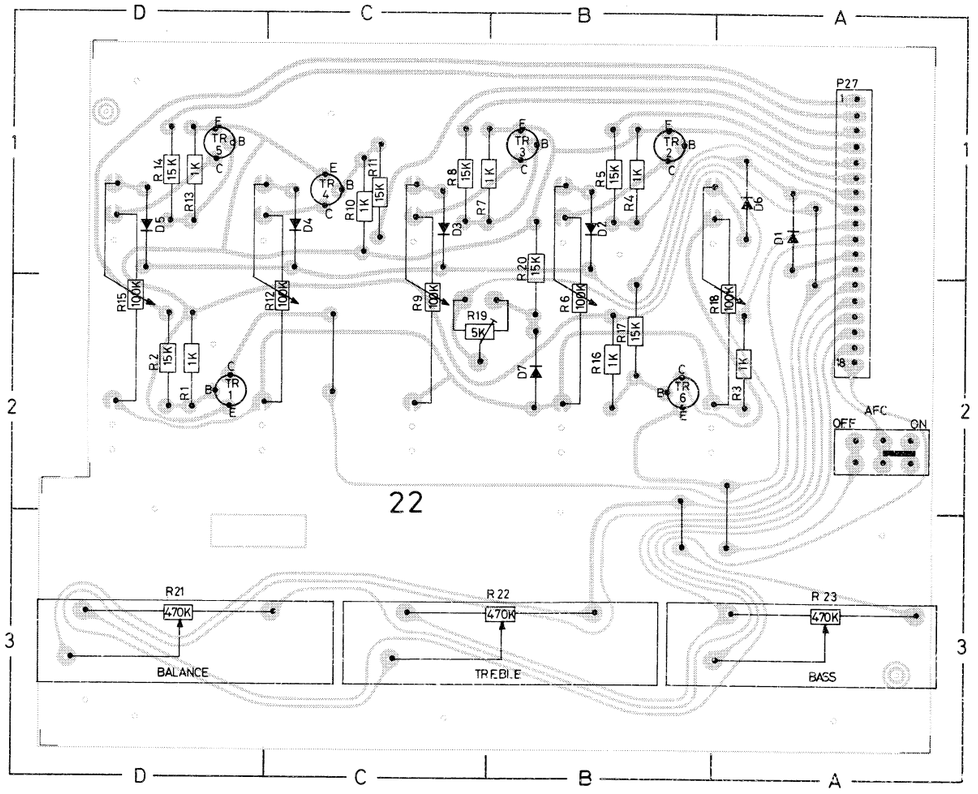
AM, 8002367, PC 23



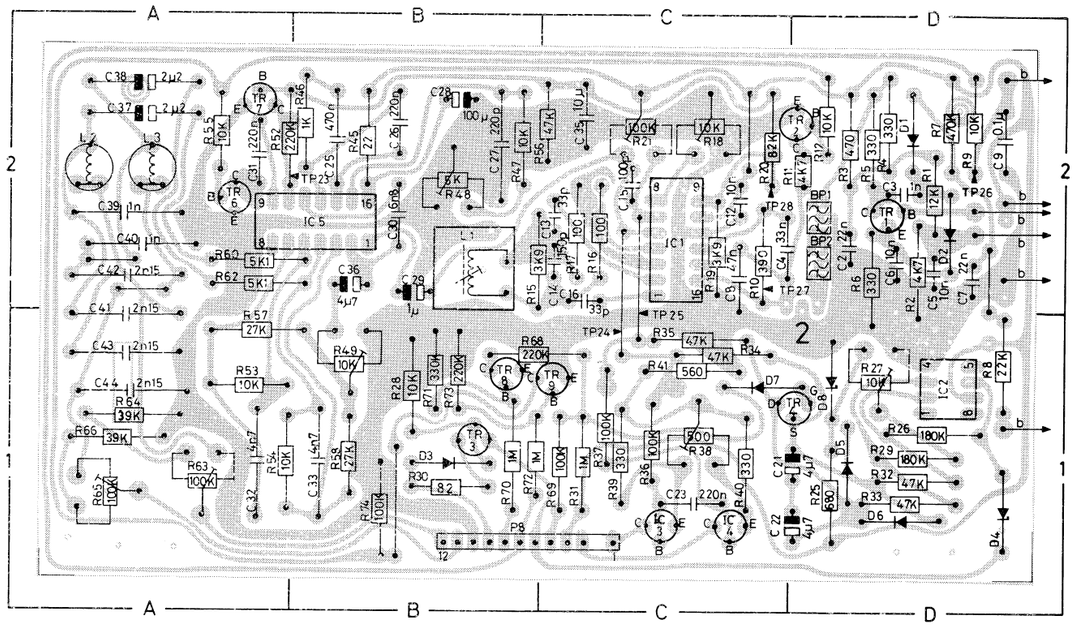
LEDNINGSFARVER COLOUR OF WIRES		KABELFARBEN COULEURS DES FILS		
b	black	schwartz	sort	noir
bl	blue	blau	blå	bleu
br	brown	braun	brun	brun
gr	green	grün	grøn	vert
grey	grey	grau	grå	gris
or	orange	orange	orange	orange
r	red	rot	rød	rouge
v	violet	violett	violet	violet
wh	white	weiss	hvid	blanc
y	yellow	gelb	gul	gaune

PC drawings are seen from copperfoil side.

Preset, 8002365, PC 22

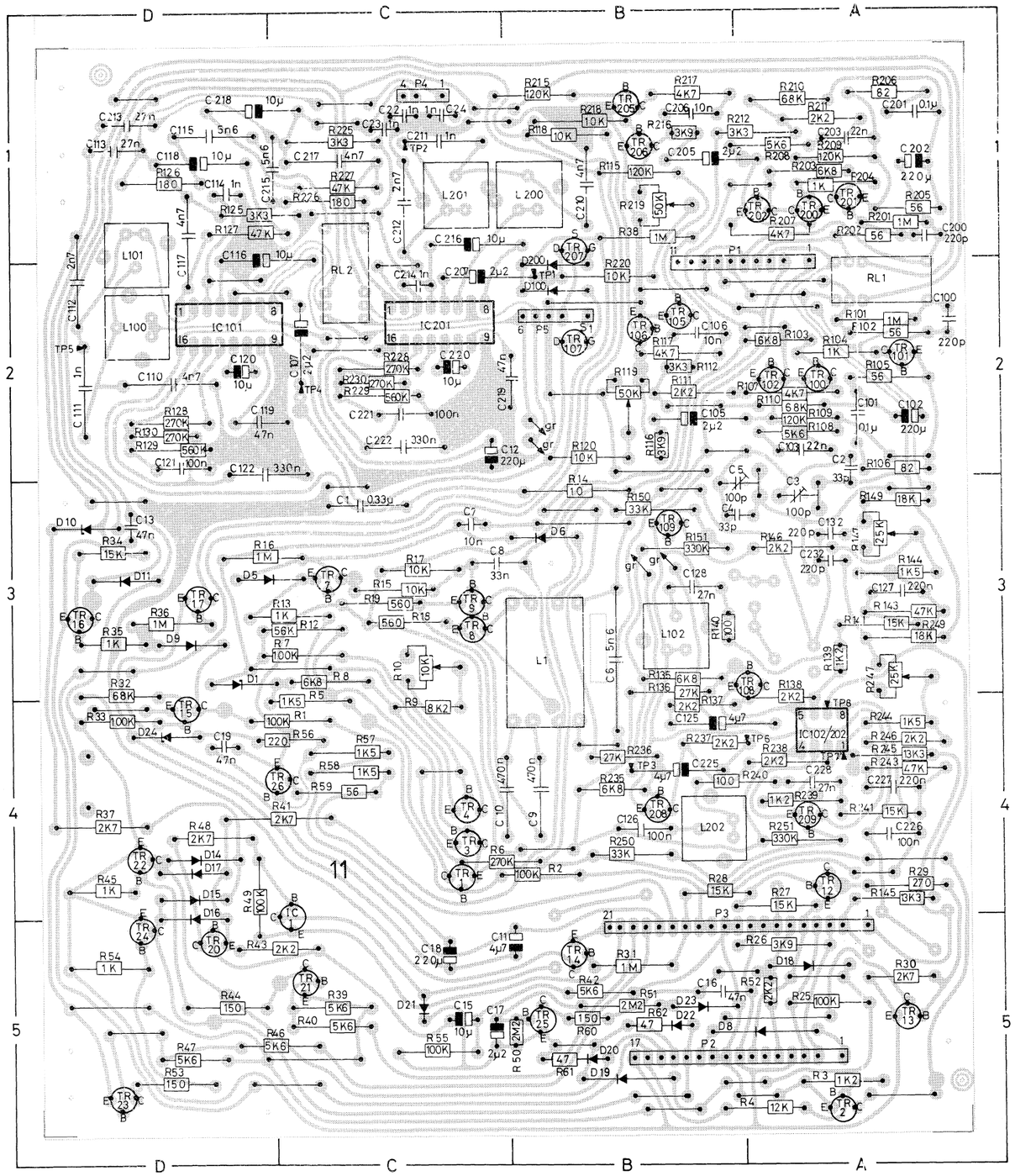


FM, 8002354, PC 2

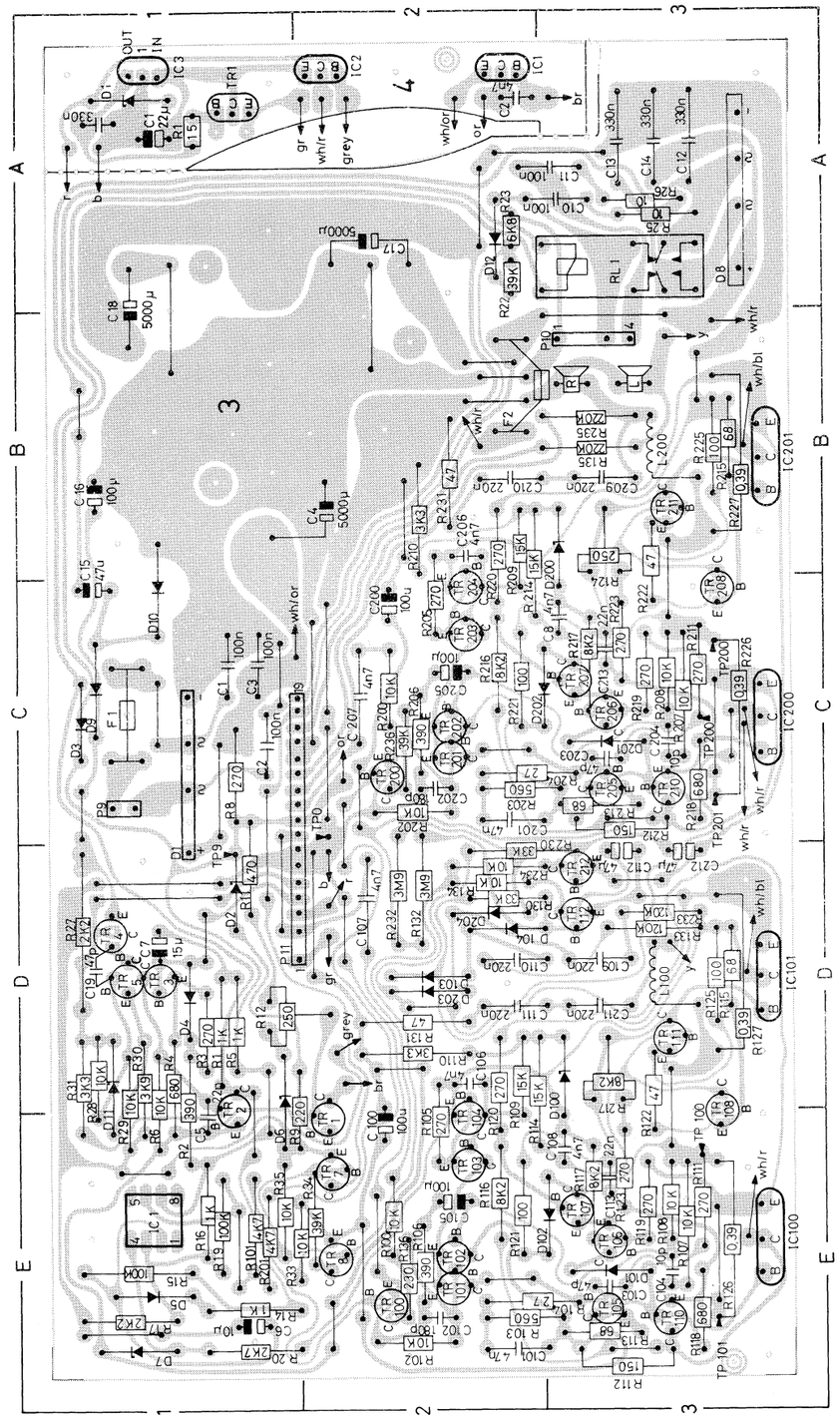


PC drawings are seen from copperfoil side

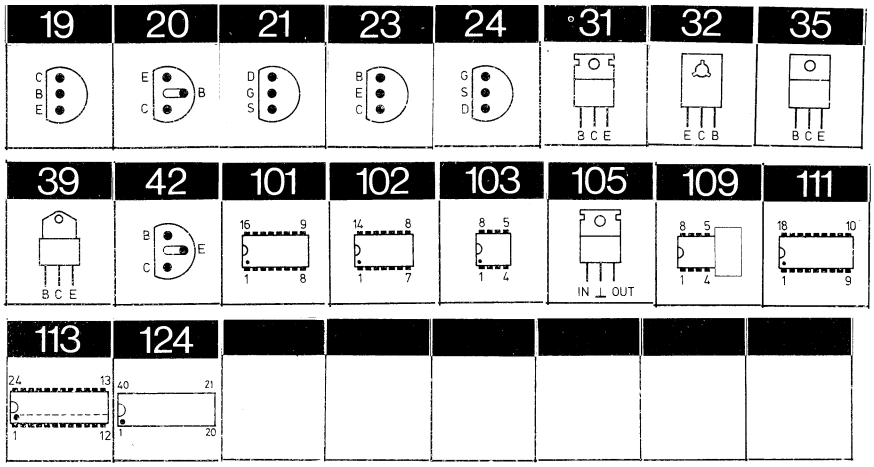
Tape, 8004210, PC11



Power supply and output ampl., 8002358, PC 3 and 4.



LIST OF TRANSISTORS AND IC's

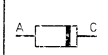


1TR1	8320136	**21**	TIS88/3C2 green
		21	SPF 2060
1TR2	8320112	**23**	BF 495
		23	BF 255
1TR3	8320119	**21**	TIS88A
1TR4			
2TR1	8320311	**42**	BF 240
2TR2	8320097	**20**	BC 547B
2TR3	8320152	**20**	BC 557B
2TR4	8320396	**24**	2N 5639
		24	MPF 4392
2TR6	8320097	**20**	BC 547B
2TR7			
2TR8			
2TR9	8320377	**20**	BC 547C
2IC1	8340033	**101**	TCA 420A
2IC2	8340168	**103**	LF 351N
2IC3	8340054	**19**	MPS A13
2IC4			
2IC5	8340134	**101**	TCA 4500
3TR1	8320097	**20**	BC 547B
3TR2	8320295	**20**	BC337 -25/18
3TR3	8320152	**20**	BC 557B
3TR4	8320241	**32**	BD 138/W
3TR5	8320237	**20**	BC 546B
3TR7	8320097	**20**	BC 547B
3TR8	8320152	**20**	BC 557B
3TR100/200	8320366	**19**	MPS A16
3TR101/201	8320377	**20**	BC 547C
3TR102/202			
3TR103/203	8320097	**20**	BC 547B
3TR104/204			
3TR105/205	8320365	**19**	MPS H54
3TR106/206	8320097	**20**	BC 547B
3TR107/207	8320152	**20**	BC 557B
3TR108/208	8320097	**20**	BC 547B
3TR110/210	8320321	**19**	MPS A06
3TR111/211			
3TR112/212	8320237	**20**	BC 546B
3IC1	8340141	**103**	LM 741CN
3IC100/200	8340132	**39**	BDV 65A
3IC101/201	8340133	**39**	BDV 64A
4TR1	8320429	**32**	BD 435
4IC1	8340118	**31**	BDX 34A
		35	TEO 1089
		35	FJ 2501
4IC2	8340117	**31**	BDX 33A
		35	TEO 1088
		35	FJ 3001

4IC3	8340064	**105**	LM 340T-15
		105	µA 7815CU
		105	µA 7815UC
		105	MC 7815CT
		105	µA 7815CKC
5TR1	8320097	**20**	BC 547B
5IC1	8340188	**101**	TDA 1029
5IC2	8340187	**111**	TDA 1074
5IC3			
6TR4	8320329	**20**	BC339-25/18
6TR5	8320097	**20**	BC 547B
6TR6			
6TR9			
6TR10			
6IC1	8340193	**103**	TDA 4050
6IC2	8340103	**102**	CA 1310E
		102	LM 1310N
6IC3	8340025	**20**	BC 516
		19	MPS A65
		19	SPS 5431
7TR1	8320331	**20**	BC 328-25/18
7IC1	8340191	**113**	SN76831 M-24
11TR1	8320152	**20**	BC 557B
11TR2			
11TR3	8320097	**20**	BC 547B
11TR4			
11TR7	8320152	**20**	BC 557B
11TR8	8320237	**20**	BC 546B
11TR9			
11TR12	8320152	**20**	BC 557B
11TR13	8320429	**32**	BD 435
11TR14	8320152	**20**	BC 557B
11TR15	8320097	**20**	BC 547B
11TR16	8320331	**20**	BC 328-25/18
11TR17	8320152	**20**	BC 557B
11TR20	8320097	**20**	BC 547B
11TR21	8320152	**20**	BC 557B
11TR22	8320427	**32**	BD 437
11TR23	8320152	**20**	BC 557B
11TR24	8320427	**32**	BD 437
11TR25	8320152	**20**	BC 557B
11TR26	8320428	**32**	BD 438
11TR100/200	8320152	**20**	BC 557B
11TR101/201	8320344	**20**	BC 550B
11TR102/202	8320097	**20**	BC 547B
11TR105/205			
11TR106/206			
11TR107/207	8320396	**24**	2N 5639
		24	MPF 4392
11TR108/208	8320152	**20**	BC 557B
11TR109/209	8320366	**19**	MPS A16
11IC1	8340184	**32**	BD 676
11IC101/201	8340183	**101**	LM 1011AN
11IC102/202	8340195	**103**	LF 353BN
12IC14	8004216		Hall-element
17TR1	8320108	**20**	BC 548B
17TR2			
17TR3			
17TR4	8320331	**20**	BC328-25/18
17TR5			
17TR6	8320108	**20**	BC 548B
17TR7	8320104	**20**	BC 558B
17TR8	8320097	**20**	BC 547B
17TR100/200	8320344	**20**	BC 550B
17IC1	8340108	**109**	MHN-3P2-RDS

17IC100/200	8340054	**19**	MPS A13
		19	TPS A13
21TR1	8320331	**20**	BC 328-
21TR2			25/18
21TR3			
21TR4			
21TR5			
21TR6	8320104	**20**	BC 558B
21TR7	8320108	**20**	BC 548B
21TR10	8320368	**31**	BD 533
21TR11	8320329	**20**	BC 338-
			25/18
21TR12	8320331	**20**	BC 328-
21TR13			25/18
21TR14	8320108	**20**	BC 548B
21IC1	8340199	**101**	SN74LS42
21IC2	8340156	**101**	SN74247N
21IC3	8340054	**19**	MPS A13
		19	TPS A13
21IC4	8340104	**102**	SN 16880N
21IC5	8340200	**124**	µC 8048
21IC6	8340201	**124**	Exp. 8355
21IC7	8340192	**101**	SN 7445N
22TR1	8320152	**20**	BC 557B
22TR2			
22TR3			
22TR4			
22TR5			
22TR6			
23TR1	8320329	**20**	BC338-
			25/18
23TR2	8320237	**20**	BC 546B
23IC1	8340196	**101**	TDA 1046

LIST OF DIODES, ETC.

203	209	215	217	219	220		
							

1D1	8300041	**209**	BB103green
1D2			
1D3	8300050	**209**	BB 103blue
1D4			
2D1	8300058	**217**	SFD 184
2D2		**215**	1N 4148
		209	1N 4148
2D3	8300056	**209**	ZTE 1.5 10%
2D4	8340190	**209**	ZTK 18
2D5	8300058	**217**	SFD 184
2D6		**215**	1N 4148
2D7		**209**	1N 4148
2D8	8340189	**209**	ZTK 11
3D1	8300297		B80C3700/ 2200
3D2	8300135	**209**	ZPD3.3V 5%
		209	BZX 79 3.3V
		209	BZX 83 3.3V
3D3	8300058	**217**	SFD 184
3D4		**215**	1N 4148
3D5		**209**	1N 4148
3D6	8300222	**209**	ZPD2.7V 5%
		209	BZX 83 2.7V
3D7	8300028	**209**	ZPD9.1V 5%
		209	BZX 79 9.1V
		209	BZX 83 9.1V
3D8	8300275		B80C5000/ 3300
3D9	8300023	**209**	1N 4002RL
3D10			
3D11	8300313	**209**	ZPD 15V 2%
		209	BZX 79 15V 2%
		209	BZX 83 15V 2%

3D12	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
3D100/200	8300029	**209**	ZPD 12 V 5%
		209	BZX 79 12V
		209	BZX 83 12V
3D101/201	8300058	**217**	SFD 184
3D102/202		**215**	1N 4148
3D103/202		**209**	1N 4148
3D104/204			
4D1	8300033	**209**	ZPD 22V 5%
		209	BZX 79 22V
		209	BZX 83 22V
5D1	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
6D1	8330004	**219**	SFH 205
6D4	8300326	**209**	ZPD 11V 5%
		209	BZX 83 C11
		209	Bzx 79 C11
6D5	8300023	**209**	1N 4002RL
6D6			
7D1	8300056	**209**	ZTE 1.5 10%
8D2	8330022	**203**	LD 271
8D3			V-290-P
8D4			
11D1	8300029	**209**	ZPD 12V 5%
		209	BZX 79 12 V
		209	BZX 83 12 V
11D5	8300058	**217**	SFD 184
11D6		**215**	1N 4148
		209	1N 4148
11D8	8300023	**209**	1N 4002RL
11D9	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148

11D10	8300128	**209**	ZPD5.6V 5%
		209	BZX 79 5.6V
		209	BZX 83 5.6V
11D11	8300023	**209**	1N 4002RL
11D14	8300058	**217**	SFD 184
11D15		**215**	1N 4148
11D16		**209**	1N 4148
11D17			
11D18			
11D19	8300023	**209**	1N 4002RL
11D20			
11D21			
11D22			
11D23	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
11D24	8300053	**209**	ZPD 15 5%
		209	BZX 79 15V
		209	BZX 83 15V
11D100/200	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
17D1	8300058	**217**	SFD 184
17D2		**215**	1N 4148
17D3		**209**	1N 4148
17D4			
17D5			
17D6			
17D7			
18D1	8300023	**209**	1N 4002RL
18D2			
18D3	8300058	**217**	SFD 184
21D1		**215**	1N 4148
21D2		**209**	1N 4148

21D3	8300309	**209**	ZPD 4.7 2%
		209	BZX 83 4.7V 2%
		209	BZX 79 4.7V 2%
21D4	8300058	**217**	SFD 184
21D5		**215**	1N 4148
21D6		**209**	1N 4148
21D7	8330010	**220**	CQY 73 N/K
21D8			
21D9			
21D10	8330009	**220**	CQY 41 N/N
21D11			
21D12	8300058	**217**	SFD 184
21D13		**215**	1N 4148
		209	1N 4148
21DP1	8330011		FCS 8499
21DP2	8330013		FNA 8399
22D1	8300058	**217**	SFD 184
22D2		**215**	1N 4148
22D3		**209**	1N 4148
22D4			
22D5			
22D6			
22D7			
23D1	8330009	**220**	CQY 41 N/N
23D2			
23D3	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148

LIST OF ELECTRICAL PARTS

OT1	8010142	Aerial transformer

Front end, tuner, 8050071, PC1

R1	5001050	47 kohms 10% 1/2W	R8	5010067	560 ohms 5% 1/8W
R2	5010141	27 kohms 5% 1/8W	R9	5010411	47 ohms 5% 1/8W
R3	5010041	5,6 kohms 5% 1/8W	R10	5001038	4,7 kohms 10% 1/2W
R4	5001062	330 kohms 10% 1/2W	R11	5001062	330 kohms 10% 1/2W
R5	5001050	47 kohms 10% 1/2W	R12	5001013	100 ohms 10% 1/2W
R6	5001013	100 ohms 10% 1/2W	R13	5001013	100 ohms 10% 1/2W
R7	5010076	3,3 kohms 5% 1/8W	R14	5001040	6,8 kohms 10% 1/2W

C1	4010008	1 nF —20 +50% 400V	C12	4010008	1 nF —20 +50% 400V
C2	4010008	1 nF —20 +50% 400V	C13	4010008	1 nF —20 +50% 400V
C3	4010008	1 nF —20 +50% 400V	C14	4003059	22 pF 5% 250V
C4	4003012	3,3 pF ±0,25 pF 400V	C15	4010008	1 nF —20 +50% 400V
C5	4330001	9 pF Cer.	C16	4130081	10 nF 20% 250V
C6	4010008	1 nF —20 +50% 400V	C17	4330001	9 pF Cer.
C7	4330001	9 pF Cer.	C19	4000020	4,7 pF 63V
C8	4200107	10 µF 10V	C20	4330001	9 pF Cer.
C9	4010015	8,2 pF ±0,25 pF 63V	C21	4101031	270 pF 5% 63V
C10	4003130	47 pF 2% 63V	C22	4010008	1 nF —20 +50% 400V
C11	4010008	1 nF —20 +50% 400V	C23	4101007	220 pF 5% 63V

L1	8020121	RF (prim.)	L6	8020183	OSC.
L2	8020122	RF (sec.)	L7	8020124	10.7 MHz
L3	6830052	3,8 µH 5%	L8	8020137	10.7 MHz
L4	6830052	3,8 µH 5%	L9	6830052	3.8 µH 5%
L5	6710001	Ferrit tube 3 × 1.2 × 3.5 mm	L10	8020120	Aerial coil

	6702001	Ferrit-core F100 (white)
	6702008	Ferrit-core F10 (red)
	6479001	Glassbushing

FM, 8002354, PC2

R1	5010046	12 kohms ±5% 1/8W	R37	5010049	100 kohms ±5% 1/8W
R2	5010048	4.7 kohms ±5% 1/8W	R38	5370002	500 ohms ±20% LIN
R3	5010058	470 ohms ±5% 1/8W	R39	5010044	330 ohms ±5% 1/8W
R4	5010044	330 ohms ±5% 1/8W	R40	5010044	330 ohms ±5% 1/8W
R5	5010044	330 ohms ±5% 1/8W	R41	5010067	560 ohms ±5% 1/8W
R6	5010044	330 ohms ±5% 1/8W	R45	5010448	22 ohms ±5% 1/8W
R7	5010077	470 kohms ±5% 1/8W	R46	5010040	1 kohms ±5% 1/8W
R8	5010079	22 kohms ±5% 1/8W	R47	5010059	10 kohms ±5% 1/8W
R9	5010059	10 kohms ±5% 1/8W	R48	5370058	5 kohms ±20% LIN
R10	5010070	390 ohms ±5% 1/8W	R49	5370074	10 kohms ±20% LIN
R11	5010048	4.7 kohms ±5% 1/8W	R52	5010120	220 kohms ±5% 1/8W
R12	5010059	10 kohms ±5% 1/8W	R53	5010059	10 kohms ±5% 1/8W
R15	5010069	3.9 kohms ±5% 1/8W	R54	5010059	10 kohms ±5% 1/8W
R16	5010065	100 ohms ±5% 1/8W	R55	5010059	10 kohms ±5% 1/8W
R17	5010065	100 ohms ±5% 1/8W	R56	5010045	47 kohms ±5% 1/8W
R18	5370074	10 kohms ±20% LIN	R57	5010141	27 kohms ±5% 1/8W
R19	5010069	3.9 kohms ±5% 1/8W	R58	5010141	27 kohms ±5% 1/8W
R20	5010091	82 kohms ±5% 1/8W	R60	5010733	5.1 kohms ±5% 1/8W
R21	5370128	100 kohms ±20% LIN	R62	5010733	5.1 kohms ±5% 1/8W
R25	5010144	680 ohms ±5% 1/8W	R63	5370128	100 kohms ±20% LIN
R26	5010072	180 kohms ±5% 1/8W	R64	5010060	39 kohms ±5% 1/8W
R27	5370074	10 kohms ±10% LIN	R65	5370128	100 kohms ±20% LIN
R28	5010059	10 kohms ±5% 1/8W	R66	5010060	39 kohms ±5% 1/8W
R29	5010072	180 kohms ±5% 1/8W	R68	5010120	220 kohms ±5% 1/8W
R30	5010056	82 ohms ±5% 1/8W	R69	5010049	100 kohms ±5% 1/8W
R31	5010054	1 Mohms ±5% 1/8W	R70	5010054	1 Mohms ±5% 1/8W
R32	5010045	47 kohms ±5% 1/8W	R71	5010117	330 kohms ±5% 1/8W
R33	5010045	47 kohms ±5% 1/8W	R72	5010054	1 Mohms ±5% 1/8W
R34	5010045	47 kohms ±5% 1/8W	R73	5010120	220 kohms ±5% 1/8W
R35	5010045	47 kohms ±5% 1/8W	R74	5010049	100 kohms ±5% 1/8W
R36	5010049	100 kohms ±5% 1/8W			

C2	4010060	22 nF —20 +80% 40V	C27	4101007	220 pF ±5% 63V
C3	4010027	1 nF ±10% 100V	C28	4200099	100 µF 16V
C4	4130110	33 nF ±20% 250V	C29	4200298	1 µF 63V
C5	4010041	10 nF —20 +80% 40V	C30	4130050	6.8 nF ±10% 250V
C6	4010041	10 nF —20 +80% 40V	C31	4130104	220 nF ±20% 100V
C7	4010060	22 nF —20 +80% 40V	C32	4101026	4.7 nF ±5% 63V
C8	4130078	47 nF ±20% 250V	C33	4101026	4.7 nF ±5% 63V
C9	4130150	100 n ±20% 100V	C35	4200101	10 µF 16V
C12	4010041	10 nF —20 +80% 40V	C36	4201061	4.7 µF 63V
C13	4003125	33 pF ±2% 63V	C37	4201035	2.2 µF 63V
C14	4000094	150 pF ±5% 63V	C38	4201035	2.2 µF 63V
C15	4003128	100 pF ±5% 63V	C39	4101019	1 nF ±5% 63V
C16	4003125	33 pF ±2% 63V	C40	4101019	1 nF ±5% 63V
C21	4201061	4.7 µF 63V	C41	4100081	2.15 nF ±2.5% 63V
C22	4201061	4.7 µF 63V	C42	4100081	2.15 nF ±2.5% 63V
C23	4130104	220 nF ±20% 100V	C43	4100081	2.15 nF ±2.5% 63V
C25	4130114	470 nF ±10% 100V	C44	4100081	2.15 nF ±2.5% 63V
C26	4130104	220 nF ±20% 100V			

L1	8020318	1.47 µH	BP1	8030012	10.7 MHz
L2	8022100	31 mH	BP2	8030012	10.7 MHz
L3	8022100	31 mH			
	6702045	Ferrit-core F10			

P8	7220117	Plug 12/11 pins
	3304019	Screen/housing

Power supply and output ampl. 8002358, PC3.

R1	5010040	1 kohms ±5% 1/8W	R204	5010403	27 ohms ±5% 1/8W
R2	5010070	390 ohms ±5% 1/8W	R205	5010000	270 ohms ±5% 1/8W
R3	5010000	270 ohms ±5% 1/8W	R206	5010797	390 ohms ±2% 1/8W
R4	5010144	680 ohms ±5% 1/8W	R207	5010059	10 kohms ±5% 1/8W
R5	5010040	1 kohms ±5% 1/8W	R208	5010776	10 kohms ±2% 1/8W
R6	5010059	10 kohms ±5% 1/8W	R209	5010053	15 Kohms ±5% 1/8W
R8	5001020	270 ohms ±10% 1/2W	R210	5001036	3.3 kohms ±10% 1/2W
R9	5010092	220 ohms ±5% 1/8W	R211	5010000	270 ohms ±5% 1/8W
R11	5010058	470 ohms ±5% 1/8W	R212	5010611	150 ohms ±5% 1/8W
R12	5370174	250 ohms ±20% 0.1W	R213	5010039	68 ohms ±5% 1/8W
R14	5010040	1 kohms ±5% 1/8W	R214	5010053	15 kohms ±5% 1/8W
R15	5010049	100 kohms ±5% 1/8W	R215	5010039	68 ohms ±5% 1/8W
R16	5010040	1 kohms ±5% 1/8W	R216	5001041	8.2 kohms ±10% 1/2W
R17	5010064	2.2 kohms ±5% 1/8W	R217	5001041	8.2 kohms ±10% 1/2W
R19	5010049	100 kohms ±5% 1/8W	R218	5010144	680 ohms ±5% 1/8W
R20	5001035	2.7 kohms ±10% 1/2W	R219	5010000	270 ohms ±5% 1/8W
R22	5010060	39 kohms ±5% 1/8W	R220	5010000	270 ohms ±5% 1/8W
R23	5010052	6.8 kohms ±5% 1/8W	R221	5010055	100 ohms ±5% 1/8W
R25	5010506	10 ohms ±5% 1/8W	R222	5010411	470 ohms ±5% 1/8W
R26	5010506	10 ohms ±5% 1/8W	R223	5010000	270 ohms ±5% 1/8W
R27	5002028	2.2 kohms ±10% 1W	R224	5370174	250 ohms ±20% 0.1W
R28	5010776	10 kohms ±2% 1/8W	R225	5010065	100 ohms ±5% 1/8W
R29	5010776	10 kohms ±2% 1/8W	R226	5100166	0.39 ohm ±10% 2W
R30	5010069	3.9 kohms ±5% 1/8W	R227	5100166	0.39 ohm ±10% 2W
R31	5010076	3.3 kohms ±5% 1/8W	R230	5010075	33 kohms ±5% 1/8W
R33	5010059	10 kohms ±5% 1/8W	R231	5000085	4.7 ohms ±10% 1/2W
R34	5010060	39 kohms ±5% 1/8W	R232	5001076	3.9 Mohms ±10% 1/2W
R35	5010059	10 kohms ±5% 1/8W	R233	5010047	120 kohms ±5% 1/8W
R200	5010776	10 kohms ±2% 1/8W	R234	5010059	10 kohms ±5% 1/8W
R201	5010048	4.7 kohms ±5% 1/8W	R235	5001019	220 ohms ±10% 1/2W
R202	5010776	10 kohms ±2% 1/8W	R236	5010798	39 kohms ±2% 1/8W
R203	5010067	560 ohms ±5% 1/8W			

C1	4130150	100 nF ±20% 100V	C15	4201074	47 µF 40V
C2	4130150	100 nF ±20% 100 V	C16	4200368	100 µF 63V
C3	4130150	100 nF ±20% 100V	C17	4200402	5000 µF 35V
C4	4200401	4700 µF 25V	C18	4200402	5000 µF 35V
C5	4010060	22 nF —20 +80% 40V	C200	4201060	100 µF 40V
C6	4200101	10 µF ±20% 16V	C201	4130087	47 nF ±10% 250V
C7	4200230	15 µF ±20% 16V	C202	4010029	180 pF ±10% 100V
C10	4130150	100 nF ±20% 100V	C203	4000077	47 pF ±2% 63V
C11	4130150	100 nF ±20% 100V	C204	4000016	10 pF ±2% 63V
C12	4130106	330 nF ±20% 100V	C205	4200098	100 µF 10V
C13	4130106	330 nF ±20% 100V	C206	4010063	4.7 nF ±10% 63V
C14	4130106	330 nF ±20% 100V	C207	4130114	470 nF ±10% 100V

C208	4010063	4.7 nF ±10% 63V	C211	4130104	220 nF ±20% 100V
C209	4130104	220 nF ±20% 100V	C212	4200411	47 µF —10 +100% 6.3V
C210	4130104	220 nF ±20% 100V	C213	4010060	22 nF —20 +80% 40V
L200	6850114	0.5 µH	P9	7220195	Plug 2/2 pins
			P10	7220196	Plug 4/3 pins
F1	6600010	4A-T 250V S IEC 127	P11	7220142	Plug 19/18 pins
F2	6600006	1A-T 250V S IEC 127		7560013	Contact pin
RL1	7600046				

Power supply, 8002413, PC4.

R1	5010468	15 ohms ±5% 1/8W
C1	4200100	22 µF 40V
C2	4010063	4.7 nF ±10% 63V
C3	4130171	330 nF ±20% 63V

Vol. and tone control, 8002356, PC5.

R1	5010075	33 kohms ±5% 1/8W	R61	5010060	39 kohms ±5% 1/8W
R2	5010077	470 kohms ±5% 1/8W	R62	5010060	39 kohms ±5% 1/8W
R3	5010075	33 kohms ±5% 1/8W	R63	5010060	39 kohms ±5% 1/8W
R4	5010077	470 kohms ±5% 1/8W	R64	5010060	39 kohms ±5% 1/8W
R5	5010075	33 kohms ±5% 1/8W	R65	5010046	12 kohms ±5% 1/8W
R6	5010077	470 kohms ±5% 1/8W	R66	5010046	12 kohms ±5% 1/8W
R7	5010075	33 kohms ±5% 1/8W	R67	5010061	56 kohms ±5% 1/8W
R8	5010077	470 kohms ±5% 1/8W	R68	5010061	56 kohms ±5% 1/8W
R9	5010120	220 kohms ±5% 1/8W	R69	5010046	12 kohms ±5% 1/8W
R10	5010063	150 kohms ±5% 1/8W	R70	5010046	12 kohms ±5% 1/8W
R11	5010075	33 kohms ±5% 1/8W	R72	5010040	1 kohms ±5% 1/8W
R12	5010077	470 kohms ±5% 1/8W	R73	5010040	1 kohms ±5% 1/8W
R13	5010075	33 kohms ±5% 1/8W	R74	5010247	1.5 kohms ±5% 1/8W
R14	5010077	470 kohms ±5% 1/8W	R75	5010247	1.5 kohms ±5% 1/8W
R30	5010059	10 kohms ±5% 1/8W	R76	5010141	27 kohms ±5% 1/8W
R31	5010059	10 kohms ±5% 1/8W	R77	5010076	3.3 kohms ±5% 1/8W
R32	5010091	82 kohms ±5% 1/8W	R78	5020074	15 kohms ±1% 1/8W
R33	5010091	82 Kohms ±5% 1/8W	R79	5020144	30.1 kohms ±1% 1/8W
R34	5010059	10 kohms ±5% 1/8W	R80	5020097	60.4 kohms ±1% 1/8W
R35	5010075	33 kohms ±5% 1/8W	R81	5010047	120 kohms ±5% 1/8W
R36	5010075	33 kohms ±5% 1/8W	R82	5010079	22 kohms ±5% 1/8W
R37	5010060	39 kohms ±5% 1/8W	R83	5010059	10 kohms ±5% 1/8W
R38	5370074	10 kohms ±20% LIN	R84	5010615	100 kohms ±5% 1/8W
R39	5010135	18 kohms ±5% 1/8W	R85	5010615	100 kohms ±5% 1/8W
R40	5010060	39 kohms ±5% 1/8W	R86	5010253	33 kohms ±5% 1/8W
R41	5310074	10 kohms ±20% LIN	R87	5010053	15 kohms ±5% 1/8W
R42	5010135	18 kohms ±5% 1/8W	R90	5010059	10 kohms ±5% 1/8W
R43	5010060	39 kohms ±5% 1/8W	R91	5010052	6.8 kohms ±5% 1/8W
R44	5010058	470 ohms ±5% 1/8W	R92	5010091	82 kohms ±5% 1/8W
R45	5010058	470 ohms ±5% 1/8W	R93	5010059	10 kohms ±5% 1/8W
R46	5010060	39 kohms ±5% 1/8W	R94	5010091	82 kohms ±5% 1/8W
R47	5010040	1 kohms ±5% 1/8W	R95	5010045	47 kohms ±5% 1/8W
R48	5010040	1 kohms ±5% 1/8W	R96	5010091	82 kohms ±5% 1/8W
R49	5010059	10 kohms ±5% 1/8W	R97	5010059	10 kohms ±5% 1/8W
R50	5010059	10 kohms ±5% 1/8W	R98	5010059	10 kohms ±5% 1/8W
R51	5010253	33 ohms ±5% 1/8W	R99	5010091	82 kohms ±5% 1/8W
R52	5010053	15 kohms ±5% 1/8W	R100	5010045	47 kohms ±5% 1/8W
R53	5010060	39 kohms ±5% 1/8W	R101	5010091	82 kohms ±5% 1/8W
R54	5010060	39 kohms ±5% 1/8W	R102	5010059	10 kohms ±5% 1/8W
R55	5010154	8.2 kohms ±5% 1/8W	R103	5010091	82 kohms ±5% 1/8W
R56	5010154	8.2 kohms ±5% 1/8W	R104	5010059	10 kohms ±5% 1/8W
R57	5010060	39 kohms ±5% 1/8W	R105	5010052	6.8 kohms ±5% 1/8W
R58	5010060	39 kohms ±5% 1/8W	R106	5010040	1 kohms ±5% 1/8W
R59	5010154	8.2 kohms ±5% 1/8W	R107	5010040	1 kohms ±5% 1/8W
R60	5010154	8.2 kohms ±5% 1/8W			

C1	4130150	100 nF ±20% 100V	C9	4003128	100 pF ±5% 63V
C2	4130150	100 nF ±20% 100V	C10	4003128	100 pF ±5% 63V
C3	4130150	100 nF ±20% 100V	C11	4003128	100 pF ±5% 63V
C4	4130150	100 nF ±20% 100V	C12	4003128	100 pF ±5% 63V
C5	4010063	4.7 nF ±10% 63V	C13	4010062	330 pF ±10% 100V
C6	4130150	100 nF ±20% 100V	C14	4003128	100 pF ±5% 63V
C7	4130150	100 nF ±20% 100V	C15	4003128	100 pF ±5% 63V
C8	4200403	100 µF 25V	C25	4200342	10 µF —10 +50% 63V

C26	4200342	10µ —10 +50% 63V	C40	4130088	33 nF ±10% 250V
C27	4200403	100 µF 25V	C41	4200342	10 µF —10 +50% 63V
C28	4200092	47 µF 16V	C42	4130088	33 nF ±10% 250V
C29	4200128	47 µF 16V	C43	4200128	47 µF 16V
C30	4200128	47 µF 16V	C44	4200128	47 µF 16V
C31	4200107	10 µF ±20% 10V	C45	4200092	47 µF 16V
C32	4200342	10 µF —10 +50% 63V	C46	4200403	100 µF 25V
C33	4200342	10 µF —10 +50% 63V	C47	4200342	10 µF —10 +50% 63V
C35	4010067	1.5 nF ±10% 63V	C48	4200342	10 µF —10 +50% 63V
C36	4010067	1.5 nF ±10% 63V	C49	4010067	1.5 nF ±10% 63V
C37	4010067	1.5 nF ±10% 63V	C50	4130088	33 nF ±10% 250V
C38	4010067	1.5 nF ±10% 63V	C51	4010067	1.5 nF ±10% 63V
C39	4200342	10 µF ±10% 63V	C52	4130088	33 nF ±10% 250V

P12	7220122	Plug 4/3 pins	7400195	Switch (Loudn.)
P13	7220190	Plug 14/13 pins		
P14	7220140	Plug 16/15 pins		
P15	7220151	Plug 15/14 pins		

Remote, 8002352, PC6.

R1	5010505	820 kohms ±5% 1/8W	R21	5010053	15 kohms ±5% 1/8W
R2	5370152	10 kohms ±20% LIN	R22	5010049	100 kohms ±5% 1/8W
R3	5010040	1 kohms ±5% 1/8W	R23	5010059	10 kohms ±5% 1/8W
R4	5010298	2.7 kohms ±5% 1/8W	R24	5010048	4.7 kohms ±5% 1/8W
R5	5010298	2.7 kohms ±5% 1/8W	R25	5010059	10 kohms ±5% 1/8W
R6	5010075	33 kohms ±5% 1/8W	R26	5010059	10 kohms ±5% 1/8W
R7	5370152	10 kohms ±25% LIN	R27	5010040	1 kohms ±5% 1/8W
R8	5010247	1.5 kohms ±5% 1/8W	R30	5010058	470 ohms ±5% 1/8W
R10	5010076	3.3 kohms ±5% 1/8W	R31	5010120	220 kohms ±5% 1/8W
R11	5010076	3.3 kohms ±5% 1/8W	R32	5010120	220 kohms ±5% 1/8W
R12	5010247	1.5 kohms ±5% 1/8W	R33	5010092	220 ohms ±5% 1/8W
R13	5010053	15 kohms ±5% 1/8W	R34	5010075	33 kohms ±5% 1/8W
R14	5370058	4.7 kohms ±20% LIN	R35	5010075	33 kohms ±5% 1/8W
R15	5010040	1 kohms ±5% 1/8W	R36	5010070	390 ohms ±5% 1/8W
R16	5010144	680 ohms ±5% 1/8W	R37	5010154	8.2 kohms ±5% 1/8W
R20	5370049	1 Mohms ±20% LIN			

C1	4000023	150 pF ±5% 63V	C12	4130104	220 nF ±20% 100V
C2	4200016	22 µF —20 +80% 12V	C13	4130104	220 nF ±20% 100V
C3	4030015	47 nF —20 +80% 12V	C14	4000029	220 pF ±5% 63V
C4	4201035	2.2 µF 63V	C15	4200016	22 µF 25V
C5	4201035	2.2 µF 63V	C16	4010063	4.7 nF ±10% 63V
C6	4100033	3.3 nF ±5% 63V	C17	4201065	10µF 63V
C7	4010067	1.5 nF ±10% 63V	C18	4201069	2.2 µF ±20% 35V
C8	4010067	1.5 nF ±10% 63V	C19	4201035	2.2 µF 63V
C9	4010067	1.5 nF ±10% 63V	C20	4201035	2.2 µF 63V
C11	4010067	1.5 nF ±10% 63V			

L1	8022079	78 mH		
P24	7220168	Plug 8/8 pins	7210159	Socket 5 pol.
P25	7220156	Plug 3/3 pins	7210205	Socket Jack
P26	7220193	Plug 9/9 pins		

Remote transmitter, 8002383, PC7.

R1	5010040	1 kohms 5% 1/8W	R3	5001164	3,3 ohms 10% 1/2W
R2	5010064	2,2 kohms 5% 1/8W			

C1	4010031	680 pF ±10% 100V	C7	4010088	220 pF ±10% 63V
C2	4010021	220 pF ±10% 100V	C8	4010088	220 pF ±10% 63V
C5	4010088	220 pF ±10% 63V	C9	4010088	220 pF ±10% 63V
C6	4010088	220 pF ±10% 63V			

X1	8030013	455 kHz

Tape, 8004210, PC11.

R1	5010049	100 kohms ±5% 1/8W	R55	5010049	100 kohms ±5% 1/8W
R2	5010049	100 kohms ±5% 1/8W	R56	5010092	220 ohms ±5% 1/8W
R3	5010153	1.2 kohms ±5% 1/8W	R57	5001032	1.5 kohms ±10% 1/2W
R4	5010046	12 kohms ±5% 1/8W	R58	5001032	1.5 kohms ±10% 1/2W
R5	5010247	1.5 kohms ±5% 1/8W	R59	5010151	56 ohms ±5% 1/8W
R6	5010083	270 kohms ±5% 1/8W	R60	5010057	150 ohms ±5% 1/8W
R7	5010049	100 kohms ±5% 1/8W	R61	5010742	47 ohms ±5% 1/8W
R8	5010052	6.8 kohms ±5% 1/8W	R62	5010742	47 ohms ±5% 1/8W
R9	5010154	8.2 kohms ±5% 1/8W	R201	5010054	1 Mohms ±5% 1/8W
R10	5370074	10 kohms ±20% LIN	R202	5010151	56 ohms ±5% 1/8W
R12	5010061	56 kohms ±5% 1/8W	R203	5010052	6.8 kohms ±5% 1/8W
R13	5010040	1 kohms ±5% 1/8W	R204	5010040	1 kohms ±5% 1/8W
R14	5010506	10 ohms ±5% 1/8W	R205	5010151	56 ohms ±5% 1/8W
R15	5010059	10 kohms ±5% 1/8W	R206	5010056	82 ohms ±5% 1/8W
R16	5010054	1 Mohms ±5% 1/8W	R207	5010048	4.7 kohms ±5% 1/8W
R17	5010059	10 kohms ±5% 1/8W	R208	5010041	5.6 kohms ±5% 1/8W
R18	5010067	560 ohms ±5% 1/8W	R209	5010047	120 kohms ±5% 1/8W
R19	5010067	560 ohms ±5% 1/8W	R210	5010062	68 kohms ±5% 1/8W
R25	5010049	100 kohms ±5% 1/8W	R211	5010064	2.2 kohms ±5% 1/8W
R26	5010069	3.9 kohms ±5% 1/8W	R212	5010076	3.3 kohms ±5% 1/8W
R27	5010053	15 kohms ±5% 1/8W	R215	5010047	120 kohms ±5% 1/8W
R28	5010053	15 kohms ±5% 1/8W	R216	5010069	3.9 kohms ±5% 1/8W
R29	5010000	270 ohms ±5% 1/8W	R217	5010048	4.7 kohms ±5% 1/8W
R30	5010298	2.7 kohms ±5% 1/8W	R218	5010059	10 kohms ±5% 1/8W
R31	5010054	1 Mohms ±5% 1/8W	R219	5370061	50 kohms ±20% LIN
R32	5010062	68 kohms ±5% 1/8W	R220	5010059	10 kohms ±5% 1/8W
R33	5010049	100 kohms ±5% 1/8W	R225	5010265	3.3 kohms ±2% 1/4W
R34	5010053	15 kohms ±5% 1/8W	R226	5010362	180 ohms ±5% 1/8W
R35	5010040	1 kohms ±5% 1/8W	R227	5010045	47 kohms ±5% 1/8W
R36	5010054	1 Mohms ±5% 1/8W	R228	5010083	270 kohms ±5% 1/8W
R37	5010298	2.7 kohms ±5% 1/8W	R229	5010071	560 kohms ±5% 1/8W
R38	5010054	1 Mohms ±5% 1/8W	R230	5010083	270 kohms ±5% 1/8W
R39	5010041	5.6 kohms ±5% 1/8W	R235	5010052	6.8 kohms ±5% 1/8W
R40	5010041	5.6 kohms ±5% 1/8W	R236	5010141	27 kohms ±5% 1/8W
R41	5010298	2.7 kohms ±5% 1/8W	R237	5010064	2.2 kohms ±5% 1/8W
R42	5010041	5.6 kohms ±5% 1/8W	R238	5010064	2.2 kohms ±5% 1/8W
R43	5010064	2.2 kohms ±5% 1/8W	R239	5010153	1.2 kohms ±5% 1/8W
R44	5010057	150 ohms ±5% 1/8W	R240	5010065	100 ohms ±5% 1/8W
R45	5010040	1 kohms ±5% 1/8W	R241	5010053	15 kohms ±5% 1/8W
R46	5010041	5.6 kohms ±5% 1/8W	R243	5010045	47 kohms ±5% 1/8W
R47	5010041	5.6 kohms ±5% 1/8W	R244	5010247	1.5 kohms ±5% 1/8W
R48	5010298	2.7 kohms ±5% 1/8W	R245	5020095	13.3 kohms ±1% 1/8W
R49	5010049	100 kohms ±5% 1/8W	R246	5010064	2.2 kohms ±5% 1/8W
R50	5010245	2.2 Mohms ±10% 1/8W	R247	5370153	25 kohms ±20% LIN
R51	5010245	2.2 Mohms ±10% 1/8W	R249	5010135	18 kohms ±5% 1/8W
R52	5010064	2.2 kohms ±5% 1/8W	R250	5010075	33 kohms ±5% 1/8W
R53	5010057	150 ohms ±5% 1/8W	R251	5010117	330 kohms ±5% 1/8W
R54	5010040	1 kohms ±5% 1/8W			

C1	4130106	330 nF ±20% 100V	C202	4200097	220 µF 16V
C2	4000004	33 pF ±10% 400V	C203	4130089	22 nF ±10% 250V
C3	4340008	6-100 pF	C205	4201035	2.2 µF 63V
C4	4000004	33 pF ±10% 400V	C206	4130109	10 nF ±10% 250V
C5	4340008	6-100 pF	C207	4201035	2.2 µF 63V
C6	4100112	5.6 nF ±5% 160V	C210	4100059	4.7 nF ±2.5% 63V
C7	4010041	10 nF —20 +80% 40V	C211	4101019	1 nF ±5% 63V
C8	4130110	33 nF ±20% 250V	C212	4100076	2.7 nF ±2.5% 63V
C9	4130114	470 nF ±10% 100V	C213	4130166	27 nF ±5% 250V
C10	4130114	470 nF ±10% 100V	C214	4010027	1 nF ±10% 100V
C11	4201061	4.7 µF 63V	C215	4100049	5.6 nF ±1% 63V
C12	4200097	220 µF 16V	C216	4200342	10 µF —10 +50% 63V
C13	4030015	47 nF —20 +80% 12V	C217	4100059	4.7 nF ±2.5% 63V
C15	4201065	10 µF 63V	C218	4200342	10 µF —10 +50% 63V
C16	4130087	47 nF ±10% 250V	C219	4130087	47 nF ±10% 250V
C17	4201069	2.2 µF ±20% 35V	C220	4201065	10 µF 63V
C18	4200299	220 µF 40V	C221	4130107	100 nF ±10% 250V
C19	4030015	47 nF —20 +80% 12V	C222	4130106	330 nF ±10% 100V
C22	4010027	1 nF ±10% 100V	C225	4200322	4.7 µF 63V
C23	4010027	1 nF ±10% 100V	C226	4130107	100 nF ±10% 250V
C24	4010027	1 nF ±10% 100V	C227	4130104	220 nF ±20% 100V
C200	4010021	220 pF ±20% 100V	C228	4130166	27 nF ±5% 250V
C201	4130107	100 nF ±10% 250V	C232	4010021	220 pF ±10% 100V

L1	8020305	Osc.	L201	8022059	37 mH
L200	8022102	24 mH	L202	8022103	2.7 mH

RL1	7600045	Relay 6V
RL2	7600045	Relay 6V

P1	7220139	Plug 11/10 pins	7500053	Contact pin
P2	7220183	Plug 17/16 pins	3304050	Screen/housing
P3	7220197	Plug 21/20 pins	3358137	Heat sink
P4	7220122	Plug 4/3 pins	0593070	Solder tag
P5	7220128	Plug 6/5 pins		

Phono, 8005038, PC17.

R1	5011022	470 ohms ±5% 1/4W	R21	5010141	27 kohms ±5% 1/8W
R2	5010071	560 kohms ±5% 1/8W	R22	5370068	25 kohms ±20% LIN
R3	5010059	10 kohms ±5% 1/8W	R23	5010060	39 kohms ±5% 1/8W
R4	5010049	100 kohms ±5% 1/8W	R24	5010045	47 kohms ±5% 1/8W
R5	5010071	560 kohms ±5% 1/8W	R25	5010153	1.2 kohms ±5% 1/8W
R6	5010054	1 Mohms ±5% 1/8W	R26	5010777	22 ohms ±20% 0.7W
R7	5010059	10 kohms ±5% 1/8W	R27	5010045	47 kohms ±5% 1/8W
R8	5010071	560 kohms ±5% 1/8W	R201	5010092	220 ohms ±5% 1/8W
R9	5010063	150 kohms ±5% 1/8W	R202	5010045	47 kohms ±5% 1/8W
R10	5010063	150 kohms ±5% 1/8W	R203	5010044	330 ohms ±5% 1/8W
R11	5010049	100 kohms ±5% 1/8W	R204	5010083	270 kohms ±5% 1/8W
R12	5010059	10 kohms ±5% 1/8W	R205	5010047	120 kohms ±5% 1/8W
R13	5010431	2.7 Mohms ±10% 1/8W	R206	5010066	1.8 kohms ±5% 1/8W
R14	5010431	2.7 Mohms ±10% 1/8W	R207	5010092	220 ohms ±5% 1/8W
R15	5010059	10 kohms ±5% 1/8W	R208	5010048	4.7 kohms ±5% 1/8W
R18	5010091	82 kohms ±5% 1/8W	R209	5010058	470 ohms ±5% 1/8W
R19	5020139	12.1 kohms ±1% 1/8W	R210	5010120	220 kohms ±5% 1/8W
R20	5370173	2.5 kohms ±20% LIN	R211	5020019	36 kohms ±5% 1/8W

C1	4011022	4.7 nF —20 +80% 40V	C15	4200322	4.7 µF 63V
C2	4011022	4.7 nF —20 +80% 40V	C16	4130103	100 nF ±20% 250V
C3	4130114	470 nF ±10% 100V	C17	4130078	47 nF ±20% 250V
C4	4201057	1 µF 35V	C18	4011022	4.7 nF —20 +80% 40V
C5	4130103	100 nF ±20% 250V	C19	4201074	47 µF 40V
C8	4201058	0.47 µF 35V	C200	4201069	2.2 µF ±20% 35V
C9	4100098	68 nF ±2.5% 63V	C201	4130100	68 nF ±10% 250V
C10	4010027	1 nF ±10% 63V	C202	4000029	220 pF ±5% 63V
C11	4200342	10 µF —10 +50% 63V	C203	4000019	68 pF ±5% 63V
C12	4201057	1 µF 35V	C204	4010065	2.7 nF ±10% 63V
C13	4010060	22 nF —20 +80% 40V	C205	4130109	10 nF ±10% 250V
C14	4010060	22 nF —20 +80% 40V			

RL1	6810007	Reed-relay coil	P17	7220131	Plug 4/3 pins
	7600040	Reed relay	P18	7220182	Plug 10/9 pins
	7500013	Contact pin	P19	7220130	Plug 8/7 pins
			P20	7220181	Plug 7/6 pins
			P21	7220160	Plug 5/4 pins

Phono keyboard,

8005047, PC18.

R1	5010059	10 kohms ±5% 1/8W

P22	7220129	Plug 2/2 pins

Microcomputer and display, 8002363, PC21.

R1	5010153	1.2 kohms ±5% 1/8W	R12	5010058	470 ohms ±5% 1/8W
R2	5010153	1.2 kohms ±5% 1/8W	R13	5010044	330 ohms ±5% 1/8W
R3	5010153	1.2 kohms ±5% 1/8W	R14	5010058	470 ohms ±5% 1/8W
R4	5010153	1.2 kohms ±5% 1/8W	R15	5010044	330 ohms ±5% 1/8W
R5	5010153	1.2 kohms ±5% 1/8W	R16	5010070	390 ohms ±5% 1/8W
R6	5010058	470 ohms ±5% 1/8W	R17	5010048	4.7 kohms ±5% 1/8W
R7	5010044	330 ohms ±5% 1/8W	R18	5010048	4.7 kohms ±5% 1/8W
R8	5010058	470 ohms ±5% 1/8W	R19	5010048	4.7 kohms ±5% 1/8W
R9	5010044	330 ohms ±5% 1/8W	R24	5010059	10 kohms ±5% 1/8W
R10	5010058	470 ohms ±5% 1/8W	R25	5010058	470 ohms ±5% 1/8W
R11	5010044	330 ohms ±5% 1/8W	R26	5010058	470 ohms ±5% 1/8W

R27	5010058	470 ohms ±5% 1/8W	R59	5010049	100 kohms ±5% 1/8W
R28	5010058	470 ohms ±5% 1/8W	R60	5010362	180 ohms ±5% 1/8W
R29	5010058	470 ohms ±5% 1/8W	R61	5010362	180 ohms ±5% 1/8W
R30	5010058	470 ohms ±5% 1/8W	R62	5010362	180 ohms ±5% 1/8W
R31	5010058	470 ohms ±5% 1/8W	R63	5010362	180 ohms ±5% 1/8W
R32	5010077	470 kohms ±5% 1/8W	R64	5010362	180 ohms ±5% 1/8W
R33	5010077	470 kohms ±5% 1/8W	R65	5010758	1.8 kohms ±2% 1/8W
R35	5010065	100 ohms ±5% 1/8W	R66	5010758	1.8 kohms ±2% 1/8W
R36	5010065	100 ohms ±5% 1/8W	R69	5010065	100 ohms ±5% 1/8W
R37	5010065	100 ohms ±5% 1/8W	R70	5010040	1 kohms ±5% 1/8W
R38	5010065	100 ohms ±5% 1/8W	R71	5010040	1 kohms ±5% 1/8W
R39	5010065	100 ohms ±5% 1/8W	R72	5010040	1 kohms ±5% 1/8W
R40	5010065	100 ohms ±5% 1/8W	R73	5010040	1 kohms ±5% 1/8W
R41	5010065	100 ohms ±5% 1/8W	R74	5010040	1 kohms ±5% 1/8W
R42	5010056	82 ohms ±5% 1/8W	R75	5010049	100 kohms ±5% 1/8W
R43	5010067	560 ohms ±5% 1/8W	R76	5010059	10 kohms ±5% 1/8W
R44	5010067	560 ohms ±5% 1/8W	R77	5010079	22 kohms ±5% 1/8W
R45	5010067	560 ohms ±5% 1/8W	R78	5010816	1 kohms ±5% 1/16W
R50	5010044	330 ohms ±5% 1/8W	R80	5010816	1 kohms ±5% 1/16W
R51	5010253	33 ohms ±5% 1/8W	R81	5010816	1 kohms ±5% 1/16W
R52	5010048	4.7 kohms ±5% 1/8W	R82	5010816	1 kohms ±5% 1/16W
R53	5010048	4.7 kohms ±5% 1/8W	R83	5010816	1 kohms ±5% 1/16W
R54	5010076	3.3 kohms ±5% 1/8W	R84	5010816	1 kohms ±5% 1/16W
R55	5010076	3.3 kohms ±5% 1/8W	R85	5010816	1 kohms ±5% 1/16W
R56	5010059	10 kohms ±5% 1/8W	R86	5010816	1 kohms ±5% 1/16W
R57	5010059	10 kohms ±5% 1/8W	R87	5010816	1 kohms ±5% 1/16W

C1	4010083	10 nF —20 +80% 40V	C27	4010031	680 pF ±10% 100V
C2	4010083	10 nF —20 +80% 40V	C28	4010060	22 nF —20 +80% 40V
C3	4010083	10 nF —20 +80% 40V	C29	4010060	22 nF —20 +80% 40V
C4	4010083	10 nF —20 +80% 40V	C32	4000026	22 pF ±2% 63V
C5	4010083	10 nF —20 +80% 40V	C33	4000026	22 pF ±2% 63V
C6	4010041	10 nF —20 +80% 40V	C34	4201069	2.2 µF ±20% 35V
C7	4130171	330 nF ±20% 63V	C35	4010060	22 nF —20 +80% 40V
C8	4200097	220 µF 16V	C38	4010041	10 nF —20 +80% 40V
C9	4201069	2.2 µF ±20% 35V	C39	4010041	10 nF —20 +80% 40V
C10	4201069	2.2 µF ±20% 35V	C40	4010041	10 nF —20 +80% 40V
C11	4200342	10 µF —10 +50% 63V	C41	4010041	10 nF —20 +80% 40V
C14	4010041	10 nF —20 +80% 40V	C42	4010041	10 nF —20 +80% 40V
C15	4010041	10 nF —20 +80% 40V	C43	4010041	10 nF —20 +80% 40V
C16	4010041	10 nF —20 +80% 40V	C44	4010041	10 nF —20 +80% 40V
C17	4010041	10 nF —20 +80% 40V	C45	4010041	10 nF —20 +80% 40V
C20	4010031	680 pF ±10% 100V	C46	4010041	10 nF —20 +80% 40V
C21	4010031	680 pF ±10% 100V	C48	4010041	10 nF —20 +80% 40V
C22	4010031	680 pF ±10% 100V	C49	4010041	10 nF —20 +80% 40V
C23	4010031	680 pF ±10% 100V	C50	4010041	10 nF —20 +80% 40V
C24	4010031	680 pF ±10% 100V	C51	4010041	10 nF —20 +80% 40V
C25	4010031	680 pF ±10% 100V	C52	4010041	10 nF —20 +80% 40V
C26	4010031	680 pF ±10% 100V			

IL1	8230060	6V 80mA	X1	8090004	5.185 MHz
IL2	8230060	6V 80mA			
IL3	8230060	6V 80mA			

P28	7220177	Plug 11 pins			
P29	7220200	Plug 14 pins		7500140	Contact, pin
P30	7220199	Plug 12 pins		7500141	Contact, pin
P31	7220116	Plug 8/7 pins		3302309	Screen for µC
P32	7220167	Plug 9 pins		7200045	Socket for µC

Preset, 8002365, PC22.

R1	5010040	1 kohms ±5% 1/8W	R13	5010040	1 kohms ±5% 1/8W
R2	5010053	15 kohms ±5% 1/8W	R14	5010053	15 kohms ±5% 1/8W
R3	5010040	1 kohms ±5% 1/8W	R15	5300092	100 kohms PRESET
R4	5010040	1 kohms ±5% 1/8W	R16	5010040	1 kohms ±5% 1/8W
R5	5010053	15 kohms ±5% 1/8W	R17	5010053	15 kohms ±5% 1/8W
R6	5300092	100 kohms PRESET	R18	5310092	100 kohms PRESET
R7	5010040	1 kohms ±5% 1/8W	R19	5370058	5 kohms ±20% LIN
R8	5010053	15 kohms ±5% 1/8W	R20	5010053	15 kohms ±5% 1/8W
R9	5300092	100 kohms PRESET	R21	5310080	470 kohms lin. BALANCE
R10	5010040	1 kohms ±5% 1/8W	R22	5310080	470 kohms lin. TREBLE
R11	5010053	15 kohms ±5% 1/8W	R23	5310080	470 kohms lin. BASS
R12	5300092	100 kohms PRESET			

AM, 8002367, PC23.

P27	7220194	Plug 18/18 pins		7402088	Switch AFC
R1	5020448	22 ohms ±5% 1/8W	R5	4310013	2 × 335 pF + 100 kohms
R3	5010048	4.7 kohms ±5% 1/8W	R6	5010048	4.7 kohms ±5% 1/8W
R4	5010053	15 kohms ±5% 1/8W	R7	5010079	22 kohms ±5% 1/8W
C1	4000016	10 pF ±2% 63V	C16	4130103	100 nF ±20% 250V
C2	4340003	5.5-65 pF foil	C17	4000101	120 pF ±5% 63V
C3	4011025	3.3 nF foil	C18	4101020	1.5 nF ±5% 63V
C4	4340002	2-20 pF foil	C19	4101020	1.5 nF ±5% 63V
C5	4130103	100 nF ±20% 250V	C20	4010060	22 nF —20 +80% 40V
C6	4130150	100 nF ±20% 100V	C21	4100029	2.2 nF ±5% 63V
C7	4100123	130 pF ±2.5% 63V	C22	4130103	100 nF ±20% 250V
C8	4340003	5.5-65 pF foil	C23	4130103	100 nF ±20% 250V
C9	4003130	47 pF ±2% 63V	C24	4200218	22 µF ±20% 6V
C10	4310013	2 × 335 pF + 100 kohms	C25	4200218	22 µF ±20% 6V
C12	4100128	330 pF ±2.5% 63V	C26	4010062	330 pF ±10% 100V
C13	4340002	2-22 pF foil	C27	4200169	0.1 µF ±20% 35V
C14	4201035	2.2 µF 63V			
L1	8020313	Coil LW	L4	8020316	Coil MW osc.
L2	8020331	Coil MW	L6	8020314	469 kHz
L3	8020317	Coil LW osc.	L7	8020315	469 kHz
IL1	8230060	80mA 6V	X1	8030006	468 kHz ±1.5 kHz
			X2	8030006	468 kHz ±1.5 kHz
P6	7220140	Plug 16/15 pins		7400189	Switch AM-FM
				7500013	Contact pin
				3304019	Screen/housing

Record level, 8002360, PC25

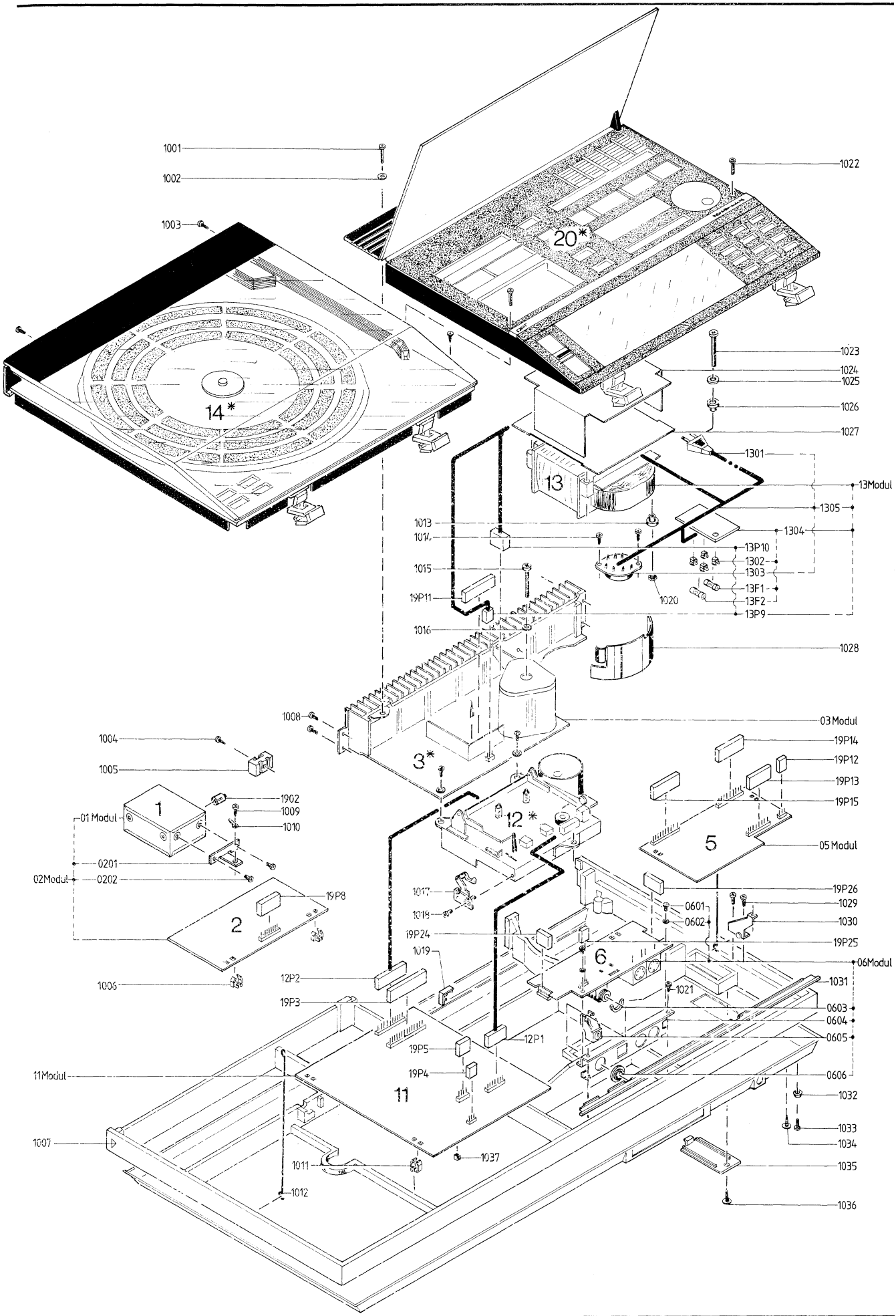
R3	5310084	2 × 47 kohms			
R4					
C1	4200101	10 µF ±20% 16V			
C2	4200101	10 µF ±20% 16V			
P23	7220193	Plug 9/9 pins			

Volume, 8002362, PC27

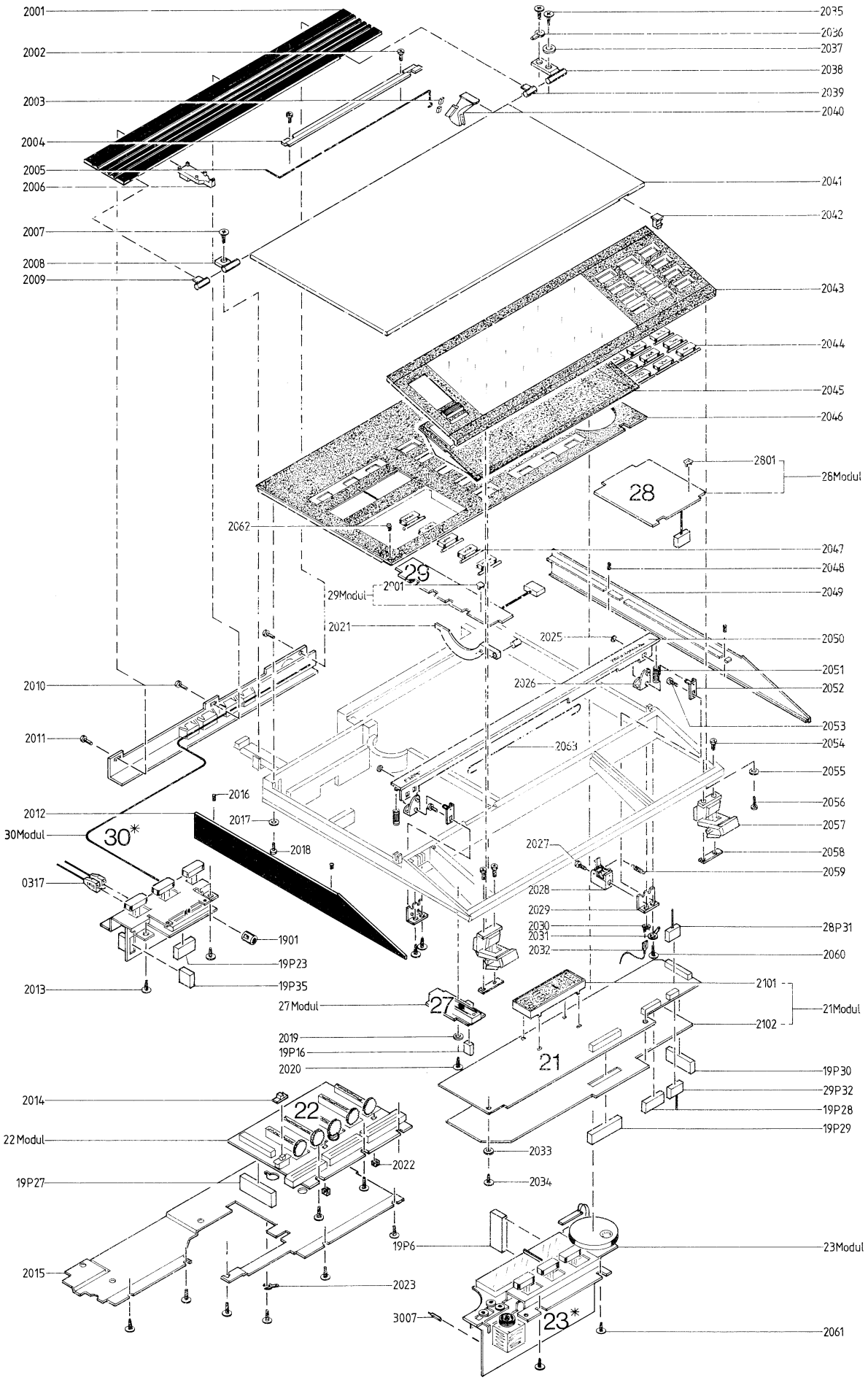
R1	8002362	22 kohms LIN			
P16	7220166	Plug 3/3 pins			

LIST OF MECHANICAL PARTS
Bottom Chassis

01Modul	8050071	PC, front end			
02Modul	8002354	PC, FM complete	0202	2039026	Screw AM3 × 4 black
0201	2542509	Bracket			
03Modul	8002358	PC, power ampl. + power supply			
05Modul	8002356	PC, switch			
06Modul	8002352	PC, remote control receiver	0604	2542525	Bracket
0601	2039015	Screw M3 × 6	0605	3152261	Holder
0602	2622052	Fibre washer	0606	2389045	Nut
0603	2576088	Spacer			
1001	2039036	Screw AM3 × 30 black	1016	2622022	Washer 4.3
1002	2622306	Washer 3.2 black	1017	2542542	Arm
1003	2015007	Screw 3.5 × 9.5 black	1018	2039015	Screw M3 × 6
1004	2013201	Screw 2.9 × 6.5	1019	3152259	Holder
1005	3152100	Holder	1020	2380016	Nut M4
1006	3152260	Holder	1021	2015007	Screw 3.5 × 9.5 black
1007	3413061	Cabinet set, self-adhesive, teak	1022	2039014	Screw AM3 × 20 black
			1023	2043014	Screw AM4 × 40
	3413063	Cabinet set, self-adhesive, rosewood	1024	3302305	Screen
			1025	2622022	Washer 4.3
	3413064	Cabinet set, self-adhesive, oak	1026	2938154	Bushing
			1027	3172082	Insulating piece
	3413065	Cabinet set, self-adhesive, white	1028	3302306	Screen
			1029	2015007	Screw 3.5 × 9.5 black
1008	2015007	Screw 3.5 × 9.5 black	1030	2542543	Bracket
1009	2015007	Screw 3.5 × 9.5 black	1031	2568602	Moulding
1010	7530090	Solder tag	1032	3035028	Rubber foot
1011	3152260	Holder	1033	2013063	Screw 2.9 × 6.5
1012	2850096	Arm	1034	2015905	Screw 3.5 × 9.5 black
1013	2938154	Bushing	1035	3164338	Cover
1014	2015007	Screw 3.5 × 9.5 black	1036	2015905	Screw 3.5 × 9.5 black
1015	2043010	Screw AM4 × 65 black	1037	2576050	Spacer
11Modul	8004210	PC, tape			
12P1	6275440	Set of wires with socket	12P2	6275441	Set of wires with socket
				3152214	Wires binder
13Modul	8013203	Mains transformer	1305	6275407	Set of wires
1301	6271101	Mains lead with euro-plug	13P9	6275421	Set of wires P9 & P10
1302	7500002	Fuse holder	13P10	6275421	Set of wires P9 & P10
1303	7400119	Voltage switch	13F1	6600022	Fuse 1.6A slow
1304	8002373	Fuse holder	13F2	6600022	Fuse 1.6A slow
19Modul	6275404	Main wire bundle	19P13	7210138	Socket/housing 13/14 contacts
1902	7220148	Plug			
19P3	7210215	Socket/housing 21/20 contacts	19P14	7210174	Socket/housing 15/16 contacts
19P4	7210113	Socket/housing 3/4 contacts	19P15	7210214	Socket/housing 14/15 contacts
19P5	7210164	Socket/housing 5/6 contacts			
19P8	7210130	Socket/housing 11/12 contacts	19P24	7210117	Socket/housing 8 contacts
			19P25	7210170	Socket/housing 3 contacts
19P11	7210165	Socket/housing 18/19 contacts	19P26	7210118	Socket/housing 9 contacts
				7500114	Contact pin
19P12	7210113	Socket/housing 3/4 contacts			


1001
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1003
1022
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1301
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13Modul
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1014
1304
13P10
1302
1303
1015
13F1
13F2
19P11
1020
13P9
1016
1028
1008
03Modul
1004
1005
3*
19P14
19P12
19P13
19P15
1902
1009
1010
01 Modul
1
12*
5
05 Modul
0201
02Modul
0202
19P8
2
1017
19P26
0601
1029
1018
0602
1030
19P24
19P25
1019
6
06Modul
1006
12P2
1021
1031
19P3
0603
0604
12P1
19P5
0605
19P4
11
11Modul
0606
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1007
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1011
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1012
1036

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Top Chassis

0317	6100054	Wire with socket			
1901	7220148	Plug	19P28	7210120	Socket/housing 11 contacts
19P6	7210174	Socket/housing 16/15 contacts	19P29	7210167	Socket/housing 14 contacts
			19P30	7210121	Socket/housing 12 contacts
19P16	7210170	Socket/housing 3 contacts	19P35	7210132	Socket/housing 6 contacts
19P23	7210118	Socket/housing 9 contacts		7500114	Contact pin
19P27	7210213	Socket/housing 18 contacts			

2001	2568535	Rear moulding	2033	2938081	Rubber bushing
2002	2015007	Screw 3.5 × 9.5 black	2034	2015905	Screw 3.5 × 9.5 black
2003	3035027	Slider	2035	2015066	Screw 3.5 × 16 black
2004	3014048	Bracket	2036	7530087	Solder tag
2005	2812083	Spring	2037	2622304	Washer
2006	3010015	Stop	2038	3030055	Hinge
2007	2015066	Screw 3.5 × 9.5 black	2039	3030041	Hinge
2008	3030043	Hinge	2040	3011010	Friction plate
2009	3030041	Hinge	2041	2568529	Lid
2010	2039033	Screw M3 × 6 black	2042	3034039	Lock
2011	2015009	Screw 3.5 × 13 black	2043	3168119	Panel
2012	2568542	Side piece	2044	2775718	Set of buttons
2013	2015905	Screw 3.5 × 9.5 black	2045	3302302	Screen
2014	2775350	Button	2046	3168120	Panel
2015	3302301	Screen	2047	2775722	Set of buttons
2016	2070034	Threaded pin M3 × 5	2048	2070034	Threaded pin M3 × 5
2017	2622117	Washer	2049	2568746	Side piece
2018	2013089	Screw 2.9 × 7.9	2050	2568532	Moulding
2019	2938081	Rubber bushing	2051	2810097	Spring
2020	2015905	Screw 3.5 × 9.5 black	2052	2530389	Bracket
*2021	3011011	Arm	2053	2039007	Screw AM3 × 3
2022	2576050	Spacer	2054	2039030	Screw AM3 × 10 black
2023	7530090	Solder tag	2055	2622306	Washer
2025	2390001	Locking ring 2.3	2056	2013025	Screw 2.9 × 13 black
2026	2854070	Arm	2057	3030054	Hinge
2027	2039007	Screw AM3 × 3	2058	2643015	Clamp
2028	2530388	Bracket	2059	2810008	Spring
2029	2530356	Bracket	2060	2015905	Screw 3.5 × 9.5 black
2030	7500145	Contact piece	2061	2015905	Screw 3.5 × 9.5 black
2031	7530087	Solder tag	2062	3010007	Stop
2032	6250093	Socket with wire	2063	2850095	Connection piece

21Modul	8002363	PC, display	2102	6140764	Screen
2101	3131180	Lamp housing			

22Modul	8002365	PC, FM preset + tone control

23Modul	8002367	PC, AM

27Modul	8002362	PC, volume control

28Modul	8002370	PC, primary operation	2801	7500134	Contact spring

29Modul	8002371	PC, secondary operation	2901	7500134	Contact spring

30Modul	8002359	PC, speakers switch + socket panel	3007	7500014	Contact bushing

*An arm (2021) with a smaller hole has been used in the first manufactured sets. This arm is available under code no. 3011014.

Chassis, Record Player

1407	2039028	Screw AM3 × 8 black	1428	2640032	Clamp
1408	3164352	Dust cover	1429	2938100	Bushing
1409	2726113	Turntable	1430	2622228	Washer
1410	2622264	Cover washer	2*1431	2815007	Leaf spring
1411	2046910	Screw	1*1432	2815012	Leaf spring
1412	2036213	Screw AM2.6 × 8	1433	2070400	Threaded pin M2 × 3
1413	2622271	Washer 2.7	1434	2722026	Pulley
1414	2938137	Rubber bushing	1435	8954650	Pick-up MMC 20E
1415	2930074	Brass bushing			(replacement)
1416	3120247	Holder	1436	2732037	Drive belt
1417	2775712	Set of buttons	1437	2991022	Stop
1418	3152272	Holder	1438	3458213	Top plate
1419	2039903	Screw AM3 × 5	1439	3030054	Hinge
1420	7500145	Contact piece	1440	2641092	Clamp
1421	6250093	Socket with wire	1441	2039903	Screw AM3 × 5
1422	3180767	Washer	1442	2510067	Wire holder
1423	2042209	Screw AM4 × 10	1443	2039903	Screw AM3 × 5
1424	2640031	Clamp	1444	3152063	Holder
1425	2938129	Bushing	1445	2622231	Mica sheet
1426	2514028	Hook	1446	2013201	Screw 2.9 × 6.5
1427	2815012	Leaf spring			

14M1	8400098	Motor	14P21	7210115	Socket/housing 5/4 contacts
				7500114	Contact pin

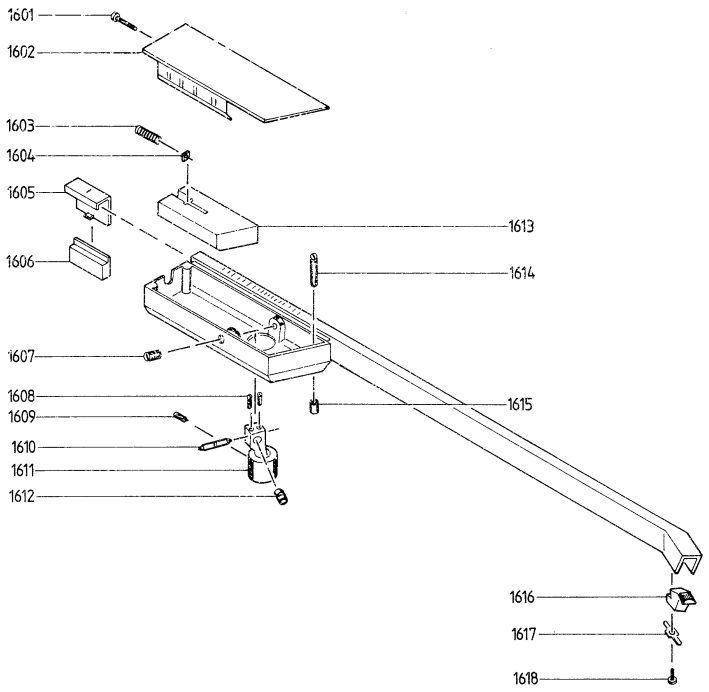
15P17	6270207	Set of wires with socket	15P19	6273837	Set of wires with socket

16 Modul	2850084	Pick-up arm	17Modul	8005038	PC, phono

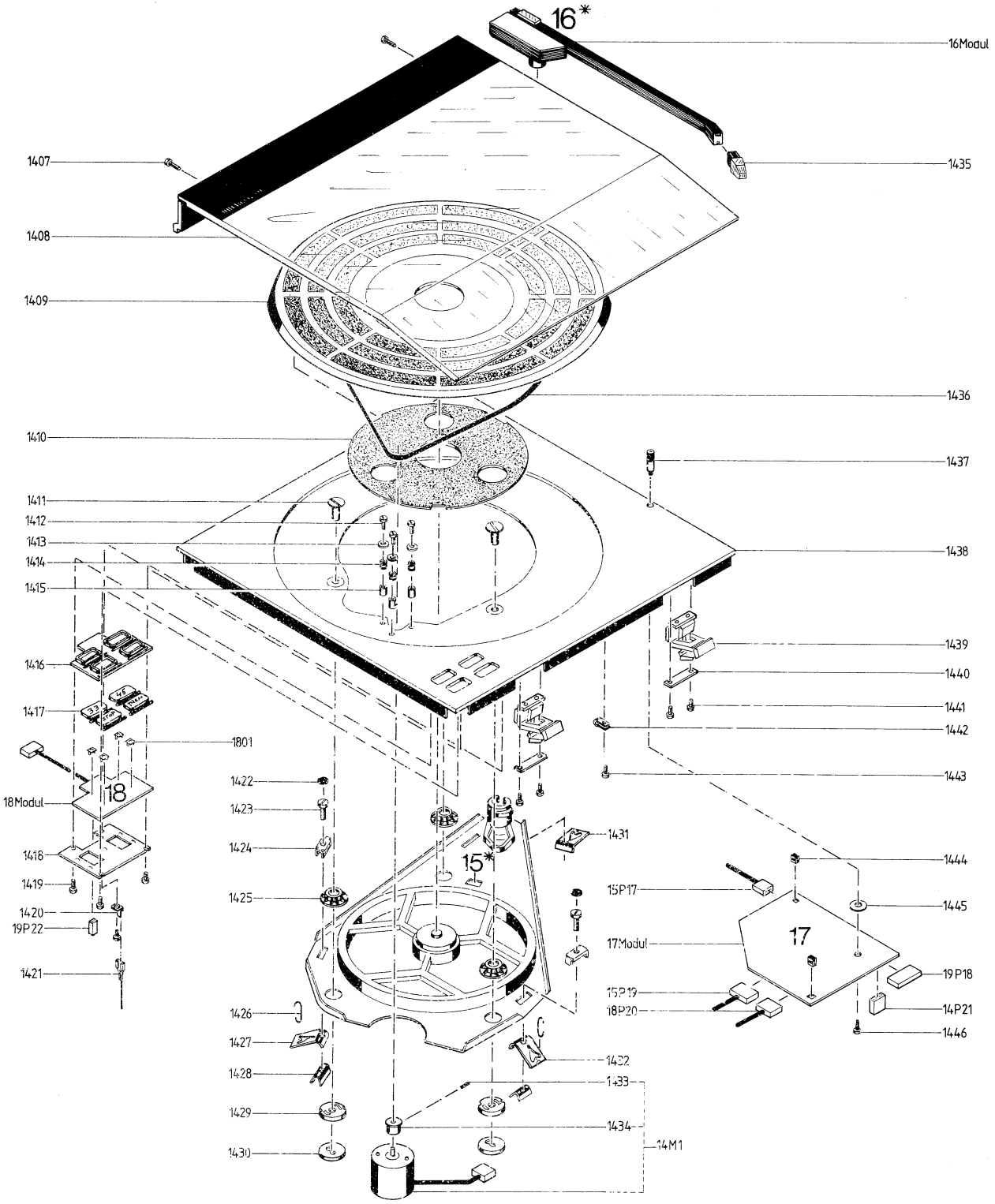
18Modul	8005047	PC, operation	1801	7500134	Contact spring

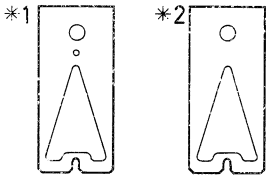
19P18	7210198	Socket/housing 10/9 contacts	19P22	7210114	Socket/housing 2 contacts
				7500114	Contact pin

Pick-up Arm 2850084

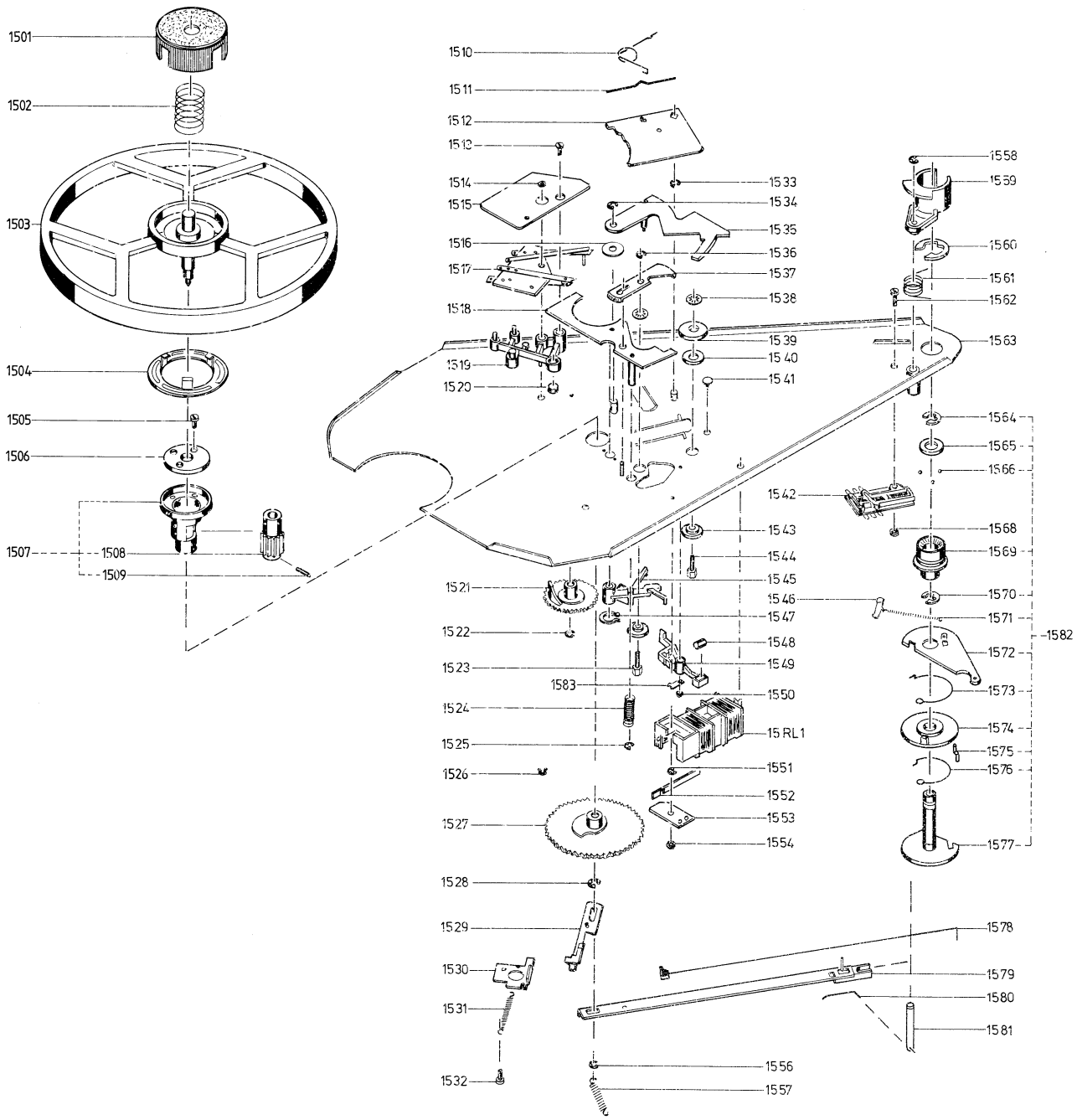


1601	2034913	Screw AM2 × 16	1610	2834060	Shaft
1602	3162093	Cover	1611	3152207	Holder
1603	2812072	Spring	1612	3151136	Bushing
1604	2380068	Square nut M2	1613	3342034	Counterweight
1605	3190064	Slide pointer	1614	2072098	Screw
1606	3342033	Counterweight	1615	2938096	Bushing
1607	2905071	Pointed bearing	1616	7200037	Socket with wire
1608	2070400	Threaded pin M2 × 3	1617	2816143	Spring
1609	2070036	Threaded pin M3 × 4	1618	2033007	Screw AM1.6 × 6 black


16*
16Modul
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1801
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18Modul
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15*
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15P17
1445
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17Modul
19P18
15P19
18P20
14P21
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19P22
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14M1


*1
*2

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Record Player Deck

1501	3014039	Adaptor
1502	2818059	Spring
1503	2794075	Flywheel
1504	3014040	Adaptor ring
1505	2038220	Screw AM3 × 12
1506	2905075	Bearing ring
1507	3150037	Bearing bushing
1508	2700024	Gear-wheel
1509	2361048	Locking pin
1510	2819145	Spring
1511	2819141	Spring
1512	3014041	Friction plate
1513	2038005	Screw AM3 × 5
1514	2380011	Nut M3
1515	3162126	Cover
1516	2622285	Washer
1517	7459017	Switch S1-S2
1518	3014052	Adaptor plate
1519	3152270	Holder
1520	3356034	Magnet
1521	2700025	Gear-wheel
1522	2390002	Locking ring 3.2
1523	2992076	Tap
1524	2818060	Spring
1525	2390002	Locking ring 3.2
1526	3152118	Wire holder
1527	3017012	Cam-lifting-wheel
1528	2390002	Locking ring 3.2
1529	2542511	Bracket
1530	2542512	Bracket
1531	2818061	Spring
1532	2038078	Screw
1533	2390002	Locking ring 3.2
1534	2390002	Locking ring 3.2
1535	3014031	Arm
1536	2390001	Locking ring 2.3
1537	3014043	Stop
1538	2395030	Locking disc
1539	2938084	Washer
1540	2622198	Washer
1541	3035020	Plastic foot
1542	7459018	Contact (silent)
1543	2803005	Washer
1544	2992048	Tap
1545	2853058	Arm
1546	2816162	Slider
1547	2390015	Circlip 5.3
1548	3356035	Magnet
1549	2853059	Arm
1550	2380011	Nut M3
1551	2390002	Locking ring 3.2
1552	7530084	Contact spring
1553	3162127	Cover
1554	2380011	Nut M3
1556	2390002	Locking ring 3.2
1557	2810082	Spring
1558	2390002	Locking ring 3.2
1559	2623033	Housing
1560	2938141	Locking ring
1561	2812082	Spring
1562	2038218	Screw AM3 × 12
1563	3110023	Chassis
1564	2390033	Locking ring 5
1565	3152224	Washer
1566	2917017	Ball 2.5
1568	2380011	Nut M3
1569	2938168	Bushing
1570	2390033	Locking ring 5
1571	2810095	Spring
1572	2851102	Arm
1573	2819106	Spring
1574	2750018	Washer
1575	2994021	Tap
1576	2819107	Spring
1577	2938142	Pile
1578	2850097	Arm
1579	2852040	Arm
1580	2530326	Arm
1581	2850093	Bar
1582	2938153	Pick-up bearing
1583	3164087	Cover

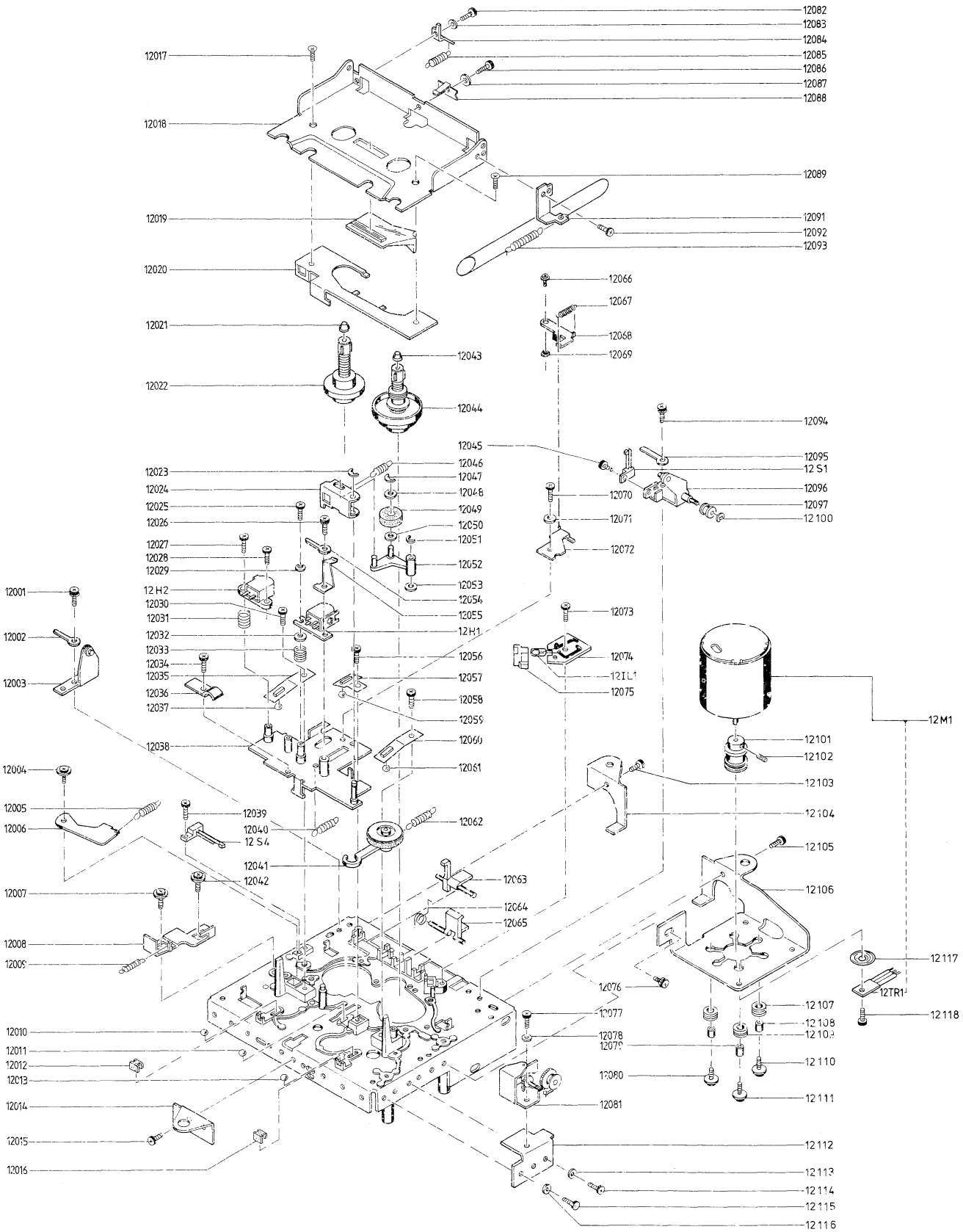
15RL1	8024060	Coil
	7500135	Contact spring

Cassette Deck, Top

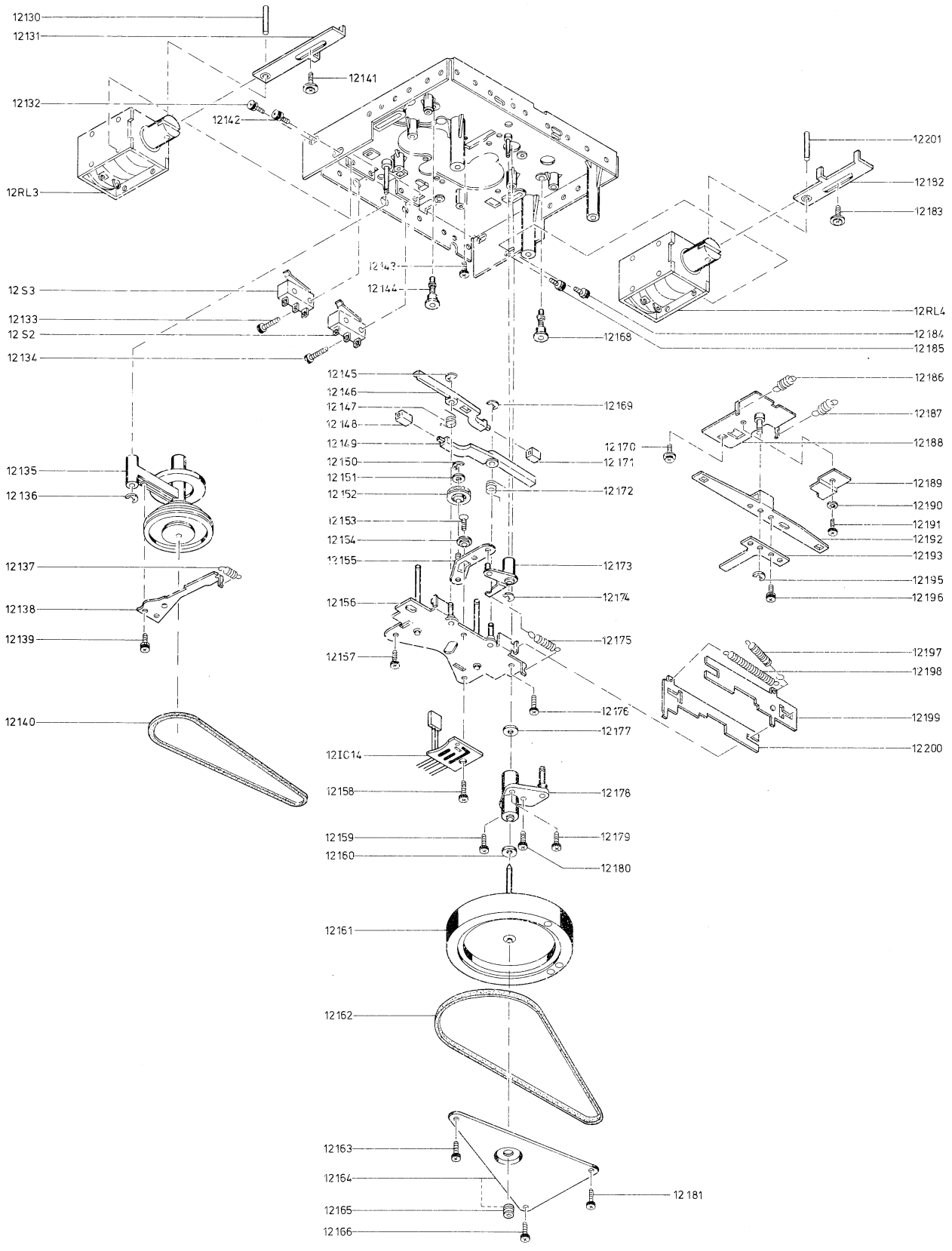
12001	2036017	Screw M2.6 × 4	12059	2917018	Ball 2.5
12002	7530088	Solder tag	12060	2816175	Leaf spring
12003	2530382	Bracket	12061	2917018	Ball 2.5
12004	2036030	Screw 2.6 × 8	12062	2810104	Spring
12005	2810110	Spring	12063	2853062	Sensor
12006	2530377	Bracket	12064	2818062	Spring
12007	2036028	Screw 2.6 × 6	12065	2853061	Sensor
12008	2542534	Bracket	12066	2036023	Screw 2.6 × 7
12009	2810101	Spring	12067	2810113	Spring
12010	2917018	Ball 2.5	12068	2853068	Arm
12011	2917018	Ball 2.5	12069	2932093	Bushing
* 12012	3010017	Stop	12070	2036021	Screw M2.6 × 3
12013	2917018	Ball 2.5	12071	2624045	Washer
12014	2530380	Bracket	12072	2542538	Bracket
12015	2036018	Screw M2.6 × 5	12073	2036029	Screw 2.6 × 8
* 12016	3010017	Stop	12074	6140766	Mounting plate
12017	2034047	Screw M2 × 4 black	12075	3151189	Lamp housing
12018	3151190	Holder	12076	2036022	Screw M2.6 × 5
12019	3199058	Light conductor	12077	2036021	Screw M2.6 × 3
12020	3151188	Bracket	12078	2624045	Washer
12021	3164380	Cover	12079	2932089	Brass bushing
12022	2932092	Supply reel	12080	2036023	Screw M2.6 × 7
12023	2390073	E-ring 2.5	12081	2542506	Damping system
12024	2853063	Arm	12082	2036019	Screw M2.6 × 3 black
12025	2034048	Screw M2 × 5	12083	2624045	Screw
12026	2034049	Screw M2 × 4	12084	2548172	Bracket
12027	2034050	Screw M2 × 7	12085	2810103	Spring
12028	2034207	Screw M2 × 5	12086	2034052	Screw M2 × 2 black
12029	2622300	Washer	12087	2622298	Washer
12030	2036029	Screw 2.6 × 8	12088	2816178	Leaf spring
12031	2812037	Spring	12089	2034047	Screw M2 × 4 black
12032	2622294	Washer	12091	2530379	Bracket
12033	2812088	Spring	12092	2034052	Screw M2 × 2 black
12034	2036019	Screw M2.6 × 3 black	12093	2810100	Spring and cord
12035	2816175	Leaf spring	12094	2036017	Screw M2.6 × 4
12036	3151191	Wire holder	12095	7530088	Solder tag
12037	2917018	Ball 2.5	12096	2542536	Holder
12038	3112244	Chassis	12097	2932088	Cord pulley
12039	2034051	Screw 2 × 8	12100	2390056	E-ring 1.5
12040	2810108	Spring	12101	2722027	Pulley
12041	2804039	Arm	12102	2072008	Threaded pin
12042	2036028	Screw 2.6 × 6	12103	2036021	Screw M2.6 × 3
12043	3164380	Cover	12104	2542535	Bracket
12044	2932091	Take-up reel	12105	2036021	Screw M2.6 × 3
12045	2036020	Screw M2.6 × 4	12106	2542537	Bracket
12046	2810109	Spring	12107	2932090	Rubber bushing
12047	2390078	E-ring 2	12108	2932089	Brass bushing
12048	2622297	Washer	12109	2932090	Rubber bushing
12049	2804041	Thrust roller	12110	2036023	Screw M2.6 × 7
12050	2622297	Washer	12111	2036023	Screw M2.6 × 7
12051	2390078	E-ring 2	12112	2530381	Bracket
12052	2853067	Arm	12113	2624013	Washer
12053	2622297	Washer	12114	2039039	Screw M3 × 4
12054	7530089	Solder tag	12115	2039039	Screw M3 × 4
12055	2816176	Bracket	12116	2624013	Washer
12056	2036029	Screw 2.6 × 8	12117	2622245	Plastic washer
12057	2816177	Leaf spring	12118	2034207	Screw M2 × 5
12058	2036029	Screw 2.6 × 8			

12H1	8600054	Tape head	12H2	8600055	Erase head
12IL1	8230060	Lamp			
12M1	8400101	Motor			
12S1	7410018	Switch	12S4	7410019	Switch
12TR1	8320455	Transistor			

* Replacing stops 12012/12016 new stops are to be glued with IS 12 (code no. 3980033)


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12043
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12094
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12 S1
12046
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12047
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12048
12070
12097
12025
12049
12100
12026
12050
12071
12027
12051
12072
12028
12052
12029
12053
12001
12 H2
12054
12030
12055
12073
12031
12 H1
12002
12032
12033
12056
12074
12034
12 IL1
12003
12035
12057
12075
12036
12058
12037
12059
12 M1
12038
12060
12101
12061
12102
12004
12103
12005
12039
12062
12104
12006
12040
12 S4
12105
12041
12042
12063
12106
12007
12064
12065
12008
12117
12009
12076
12TR1
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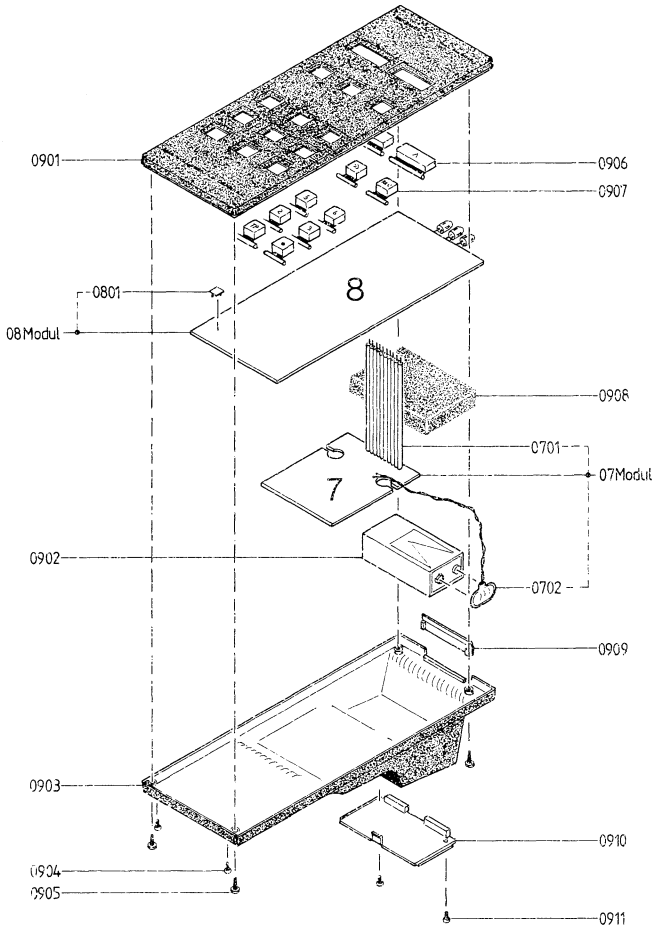


Cassette Deck, Bottom

12130	2361055	Pin	12165	2991021	Bearing
12131	2894046	Arm	12166	2036027	Screw 2.6 × 10
12132	2038063	Screw M3 × 5	12168	2994023	Guide pin
12133	2036026	Screw M2.3 × 10	12169	2390078	E-ring 2
12134	2036026	Screw M2.3 × 10	12170	2036025	Screw M2.6 × 6.5
12135	2724059	Clutch	12171	2938161	Brake block
12136	2390073	E-ring 2.5	12172	2818066	Spring
12137	2810099	Spring	12173	2854077	Arm
12138	2530378	Bracket	12174	2390078	E-ring 2
12139	2036010	Screw M2.6 × 8	12175	2810102	Spring
12140	2732047	Belt	12176	2036027	Screw 2.6 × 10
12141	2036030	Screw 2.6 × 8	12177	2622296	Plastic washer
12142	2038063	Screw M3 × 5	12178	3114148	Bearing
12143	2034051	Screw 2 × 8	12179	2036024	Screw M2.6 × 6
12144	2994023	Guide pin	12180	2036024	Screw M2.6 × 6
12145	2390078	E-ring 2	12181	2036027	Screw 2.6 × 10
12146	2853065	Arm	12182	2894047	Arm
12147	2818065	Spring	12183	2036030	Screw 2.6 × 8
12148	2938161	Brake block	12184	2038063	Screw M3 × 5
12149	2853064	Arm	12185	2038063	Screw M3 × 5
12150	2390056	E-ring 1.5	12186	2810107	Spring
12151	2622299	Washer	12187	2810107	Spring
12152	2804040	Wheel	12188	3112248	Bracket
12153	2034053	Screw M2 × 4	12189	2542539	Bracket
12154	2932087	Bushing	12190	2624045	Washer
12155	2851109	Arm	12191	2036021	Screw M2.6 × 3
12156	3112246	Chassis	12192	2853066	Arm
12157	2036027	Screw 2.6 × 10	12193	3014049	Arm
12158	2036027	Screw 2.6 × 10	12195	2390073	E-ring 2.5
12159	2036024	Screw M2 6 × 6	12196	2036022	Screw M2.6 × 5
12160	2622295	Plastic washer	12197	2810105	Spring
12161	2794081	Flywheel	12198	2810106	Spring
12162	2732048	Belt	12199	3014050	Bracket
12163	2036027	Screw 2.6 × 10	12200	3014051	Bracket
12164	3112247	Holder	12201	2361055	Pin

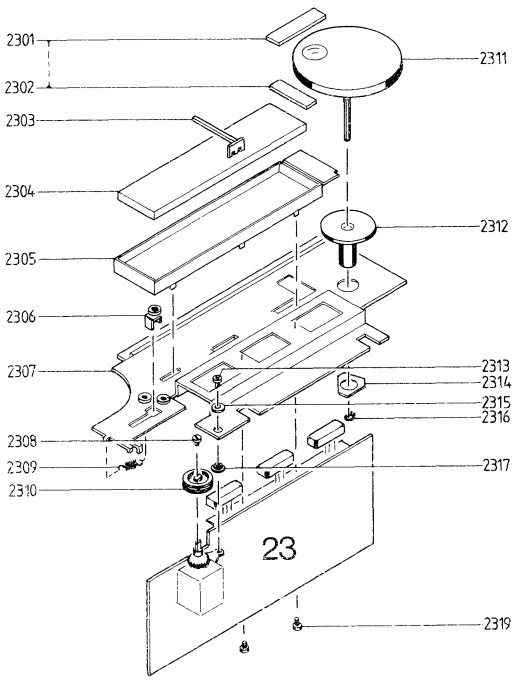
12IC14	8004216	PC complete			
12RL3	6840254	Solenoid	12RL4	6840254	Solenoid
12S2	7410020	Switch	12S3	7410020	Switch

Control Module 8052115



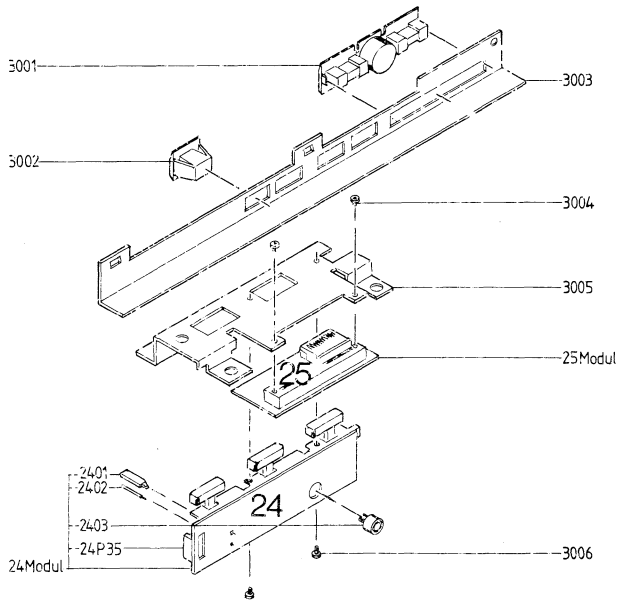
07Modul	8002383	PC, remote transmitter	0702	7229020	Battery connector
0701	6200609	Set of wires			
08Modul	8002384	PC, operation	0801	7500134	Contact spring
0901	3164367	Cover	0907	2775720	Set of buttons
0902	8700008	Battery 9V	0908	3917036	Foam
0903	3454262	Bottom	0909	3322058	Window
0904	3010007	Stop	0910	3160031	Cover
0905	2011023	Screw 2.2 × 6.5 black	0911	3010007	Stop
0906	2775721	Set of buttons			

AM Module 8002367



2301	3120253	Mounting plate	2311	2794083	Dial wheel
2302	3120253	Mounting plate	2312	2905066	Bearing
2303	3190078	Pointer	2313	2036016	Screw AM2.6 × 6
2304	3370124	Light conductor	2314	2395035	Spire
2305	3131170	Housing	2315	2622014	Fibre washer 3.2
2306	2542514	Cord pulley	2316	2390004	Circlip UG3 × 0.6
2307	3124076	Bracket	2317	2938026	Bushing
2308	2036201	Screw AM2.6 × 3	2319	2039007	Screw AM3 × 3
2309	2810086	Spring		3955001	Dial cord
2310	2724056	Cord wheel			

Speakers Switch and Socket Panel 8002359



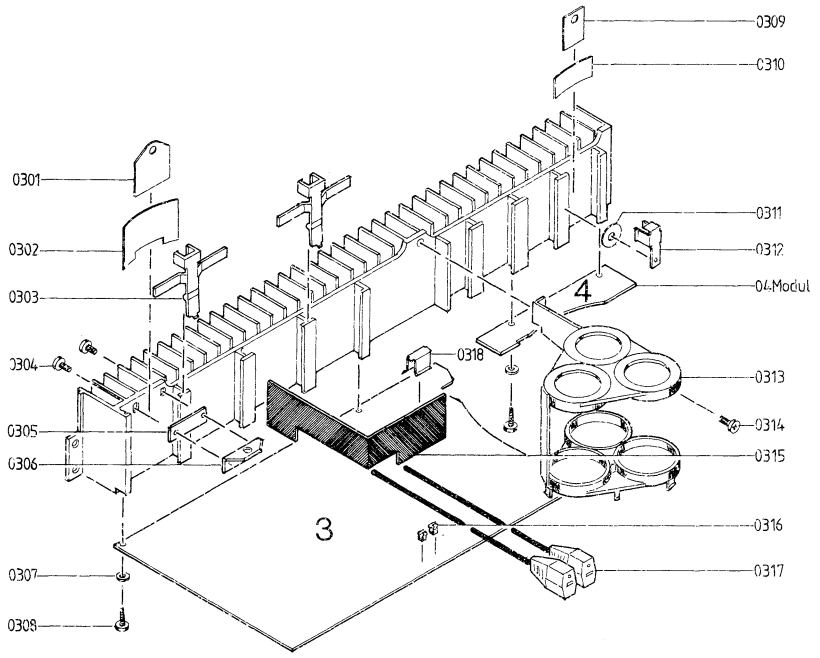
24Modul	8002361	PC, speakers switch	2402	7500100	Pin, round
24P35	7220167	Plug	2403	7210173	Socket
2401	7500101	Pin, flat			

25Modul	8002360	PC, level

3001	7220028	Socket panel	3004	2039007	Screw AM3 × 3
3002	7210251	Socket	3005	3124075	Bracket
3003	2530367	Bracket	3006	2039007	Screw AM3 × 3

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PC, Power Amplifier and Power Supply 8002358



0301	2622250	Mica sheet	0310	2816179	Spring
0302	2816120	Spring	0311	2622231	Mica sheet
0303	3152257	Holder	0312	3152280	Holder
0304	2639015	Screw M3 × 6	0313	3152262	Holder
0305	3170152	Insulating piece	0314	2039015	Screw M3 × 6
0306	2542508	Bracket	0315	3358146	Heat zink
0307	2622052	Fibre washer 3.2	0316	7500002	Fuse holder
0308	2013213	Screw 3.5 × 9.5 black	0317	6100054	Wire with socket
0309	2622248	Mica sheet	0318	2816169	Spring

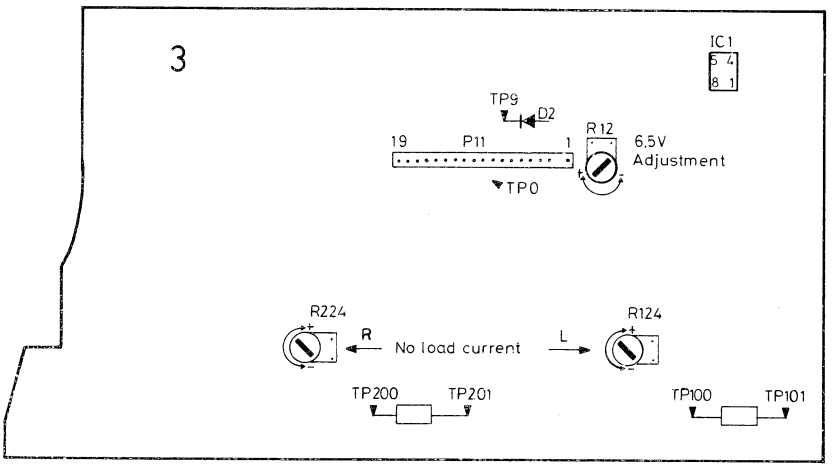
04Modul	8002413	PC, power supply

Parts Not Shown

0T1	8010142	Aerial transformer	3627006	Cleaning brush for pick-up
	3532139	Diagram	3917025	Foam 150 × 35 × 10mm
	3391539	Outer carton	3917034	Foam 75 × 35 × 10mm
	3391560	Insert for control module	3984005	Lubricant Rocol Kilopoise
	3391561	Insert for turntable		1016S for lid
	3397272	Foam packing, lid	8022105	Kit for MP-tape
	3397329	Foam packing, front	3950007	Plastic moulding for
	3397330	Foam packing, back		screen/mains transformer

RADIO SECTION ADJUSTMENTS

6.5 V Power Supply

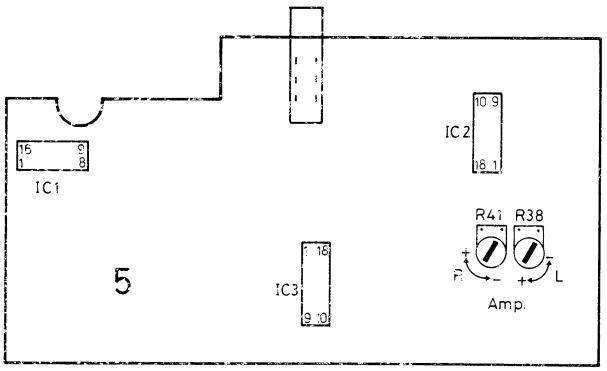


Switch to ST BY.
Connect DC voltmeter between 3TP0 and 3TP9.
With 3R12 adjust voltage to 6.5 V ±0.1 volt.

No-Signal Current

Select P1 - P5.
No-signal current should be adjusted with the receiver cold and with the volume control turned all the way down.
Speakers must not be connected.
Connect DC millivoltmeter between 3TP200 and 3TP201 (3TP100 and 3TP101), or a mA meter in the collector of 3IC200 (3IC100).
With 3R224 (3R124) adjust for 10 millivolts, or 25 mA.

Gain (AF)

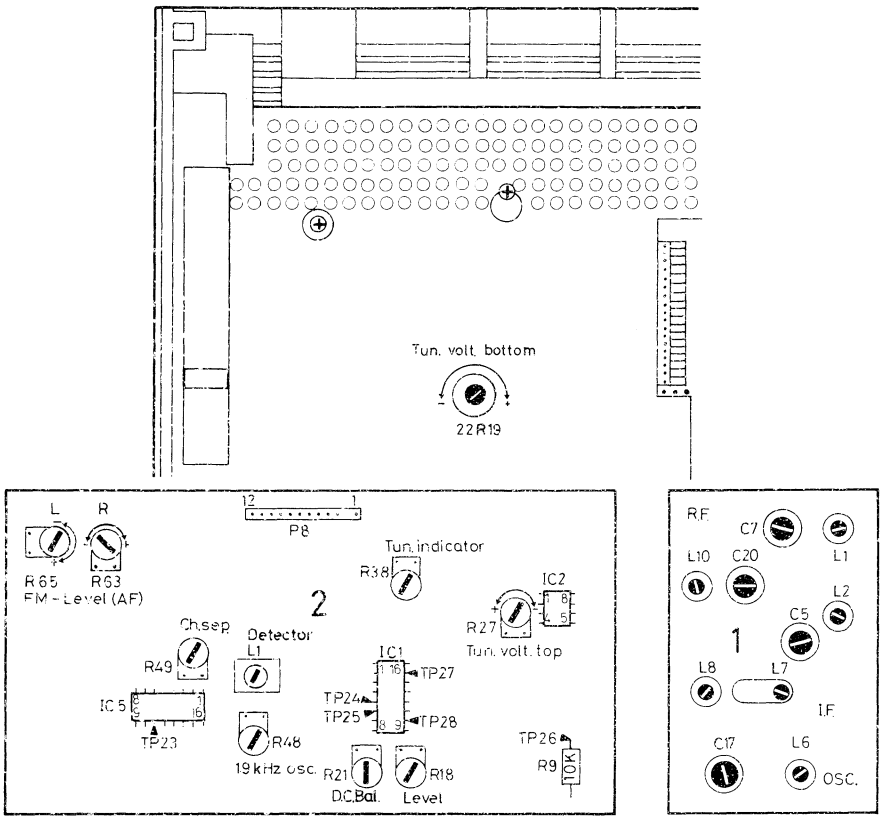


Switch receiver to ST BY in order to zero-set the remotely operated volume control. Thereafter select P1 - P5.
Mechanical volume control at max.
Bass, treble and balance controls at neutral.
Connect tone generator to external tape input and set it to deliver 1 KHz - 140 millivolts.
Connect AC voltmeter to speaker output.
With 5R41 adjust voltage to 12.7 volts in right channel and with 5R38 adjust to 12.7 volts in left channel. (12.7 volts represents 40 watts at 4-ohm load.)

FM - Presetting of Potentiometers

When performing total readjustment of the FM section it will be an advantage to preset the potentiometers as follows:
2R21, 2R27 and 2R38 should be set at midscale.
2R18, 2R49, 2R63 and 2R65 should be turned fully clockwise.

Tuning Voltage



Connect DC voltmeter to 2TP26.
Select P1 - P5 and turn the associated tuning potentiometer all the way up.
Adjust 2R27 to 25.5 volts.
Now turn the tuning potentiometer all the way down and adjust 22R19 to 4.6 volts.

Tuner

Select P6 -FM and tune to 89 MHz.
Connect sweep generator to aerial input and set to 89 MHz.
Connect oscilloscope through RC probe to 2TP28 (pin 10 of 2IC1) or through diode probe to 2TP27 (pin 15 of 2IC1).
With 1L6, 1L1. 1L2 and 1L10 adjust for max. and symmetrical IF curve.
Now set the dial pointer to 106 MHz and the sweep generator to 106 MHz.
With 1C17, 1C7, 1C5 and 1C20 adjust for max. and symmetrical IF curve.
Check dial accuracy. Repeat adjustment if necessary. Now set dial pointer to 94 MHz and sweep generator to 94 MHz.
With 1L7 and 1L8 adjust for max. and symmetrical IF curve.

Detector

Select a dial setting of e.g. 94 MHz. Connect a signal generator (or perhaps a stereo coder); this should be set to the same frequency. Switch off AFC on the set.
Connect DC voltmeter to 2TP28.
Applying a low input signal, set the tuning control for min. DC voltage at 2TP28.
Connect wattmeter or AC voltmeter to AF output.
Increase input signal (1 millivolt), and adjust 2L1 for max. AF output (thereafter, if required, for min. distortion).
Connect DC voltmeter between 2TP24 and 2TP25 (pins 5 and 6 of 2IC1).
Adjust 2R21 for 0 V.

Balance Light

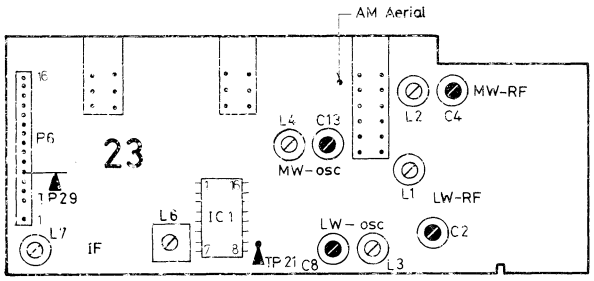
Adjust dial to 0 V between 2TP24 and 2TP25.
With 2R38 adjust for equal brightness of 23D1 and 23D2.

Stereo Decoder

Tune in a mono station.
Connect frequencycounter to 2TP23.
Adjust 2R48 for 19 kHz ±50 Hz.
(2R48 may also be adjusted by applying 19 kHz from 2TP23 to the Y-input of an oscilloscope and 19 kHz from a stereo coder to the oscilloscope's X-input. When the Lissajous figure is stationary, adjustment is correct.
A third adjustment procedure cosists in tuning in a stereo signal on the receiver. Turn 2R48 to one side until the stereo effect ceases and thereafter to the other side until the stereo efect ceases. The intermidiate setting between these two settings is approximately the correct adjustment).
Connect stereo coder to aerial input. AFC ON.
Connect wattmeter or AC voltmeter to AF output. With 2R49 adjust for min. signal in unmodulated channel.
Adjust input signal to 30 microvolts.
Adjust 2R18 for channel separation of between 25 dB and 15 dB.

FM Level Adjustment

2R65 (left) and 2R63 (right) are factory pre-adjusted for max. output, but the AF signal from the FM section can be attenuated with these adjustments should this be found necessary.



AM-IF

Set the receiver to e. g. 575 kHz in the MW band.
Apply signal from the sweep generator to 23TP21 through 0.1 µF, centre frequency 469.5 kHz Δ 10 kHz (the 468 kHz resonators in the circuit used provide a centre frequency of approx. 469.5 kHz ±1.5 kHz).
Necessary RF voltage is approx. 10 millivolts (due to IF suppression in the IC). However, it is recommend to stop the oscillator by connecting a 0.1 µF capacitor between pin 15 of 23IC1 and chassis potential as this will result in a considerable reduction in IF suppression. Necessary RF level will then be 10-100 µV. It is recommended to use as weak a signal as possible to avoid influence from the AGC.
Connect oscilloscope to 23TP29 (pin 6 of 23IC1). Adjust 23L6 and 23L7 for maximum and symmetrical IF curve.
Remove oscillator stop.

MW Oscillator and Signal Frequency Circuits

Connect signal generator to aerial through dummy aerial 575 kHz, modulation 30% - 400 Hz or 1 kHz.
Connect wattmeter or AC voltmeter to AF output. Set receiver to 575 kHz.
With 23L4 adjust the oscillator so that the receiver is tuned exactly to the transmitter frequency. (Use weakest possible signals throughout the adjustment procedure as this will result in the most precise adjustment).
With 23L2 adjust for max. signal at AF output.
Set signal generator and receiver to 1495 kHz.
With 23C13 set oscillator to frequency.
With 23C4 adjust signal-frequency circuit for max. signal.
Repeat adjustments until dial calibration matches correctly and signal-frequency circuit is at max.
Lastly adjust 23C4.

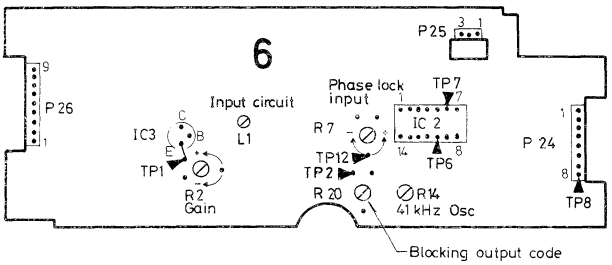
LW Oscillator and Signal Frequency Circuits

Set signal generator and receiver to 155 kHz.
With 23L3 set oscillator to frequency.
With 23L1 adjust signal-frequency circuit for max signal.
Set signal generator and receiver to 285 kHz.
With 23C8 set oscillator to frequency.
With 23C2 adjust signal-frequency circuit for max. signal.
Repeat adjustment until dial calibration matches correctly and signal-frequency circuit is at max.
Lastly adjust 23C2.

REMOTE CONTROL ADJUSTMENT

When performing total readjustment of the remote control receiver it will be an advantage to set 6R2, 6R7 and 6R20 to midscale before commencing adjustment.
AVOID STRONG LIGHT ON RECEIVER DIODE (6D1) WHILE MAKING ADJUSTMENTS.

Signal Frequency Circuit



Connect oscilloscope at 6TP1 (5 mS/cm and 100 mV/cm).
With the controlmodule transmit a weak signal (holding the control module indirectly or at some distance so that 6IC3 will not be overdriven).
Adjust 6L1 for max. signal at 6TP1.

41 kHz Oscillator

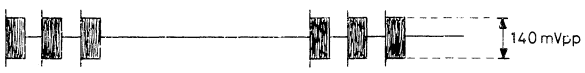
Connect a dual-beam oscilloscope at one input (through 10-megohm probe) to 6TP6 (10µS/cm and 100 mV/cm) (a lead of max. 2 cm length may be soldered on if desired).
Connect the other input to 6TP7 (5 mS/cm and 2V/cm).
Transmit a signal from the control module.
With 6R14 adjust such that the 41 kHz signal at 6TP6 is quite steady while at the same time signal (code) is arriving at 6TP7.

Sensitivity and Code Lock

Solder a 1-megohm resistor with short leads to the base of 6IC3. Feed a tone generator signal, 41 kHz - 100 millivolts, through this resistor.
Connect oscilloscope to 6TP1 (10 µS/cm and 10 mV/cm) and perform fine adjustment of the tone generator frequency for max. signal on oscilloscope.
Now set the tone generator to deliver 1.5 millivolts.
Connect a DC voltmeter at 6TP2. Adjust 6R2 so that the DC voltage at 6TP2 is approx. 1.7 volts.
Switch oscilloscope to DC mode and connect to 6TP8 (2 mS/cm and 2V/cm).
Slowly vary tone generator output level up and down, and adjust 6R20 so that 6TP8 switches to a high level when the DC voltage at 6TP2 reaches 1.7 volts.
Remove tone generator and voltmeter.

Signal to Phase Lock

Feed a weak signal from the control module to the receiver (as described under Signal Frequency Circuit above).
Connect oscilloscope at 6TP12 (5 mS/cm and 50 mV/cm).
With 6R7 adjust signal at 6TP12 to 140 millivolts peak-to-peak.



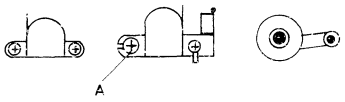
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ELECRICAL ADJUSTMENTS TAPE RECORDER

References apply to right channel (Bracketed references apply to left channel).
Electrical adjustments to be made without DOLBY NR.

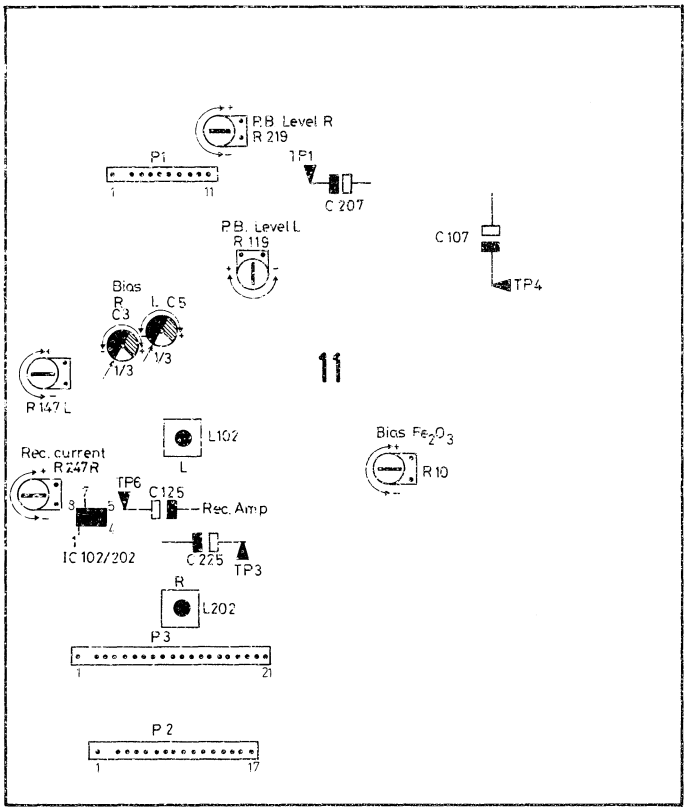
Azimuth

Demagnetise tape head and erase head.
Connect LF voltmeter to 11TP3 (11TP6).
Insert azimuth tape 6780036.



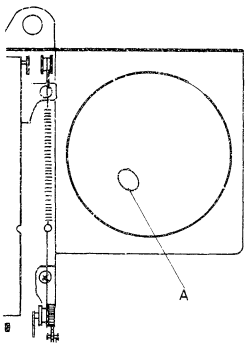
Adjust screw A for max. signal in both channels and for equal output for left and right channels (mean value 11TP3 (11TP6)).

Playback level



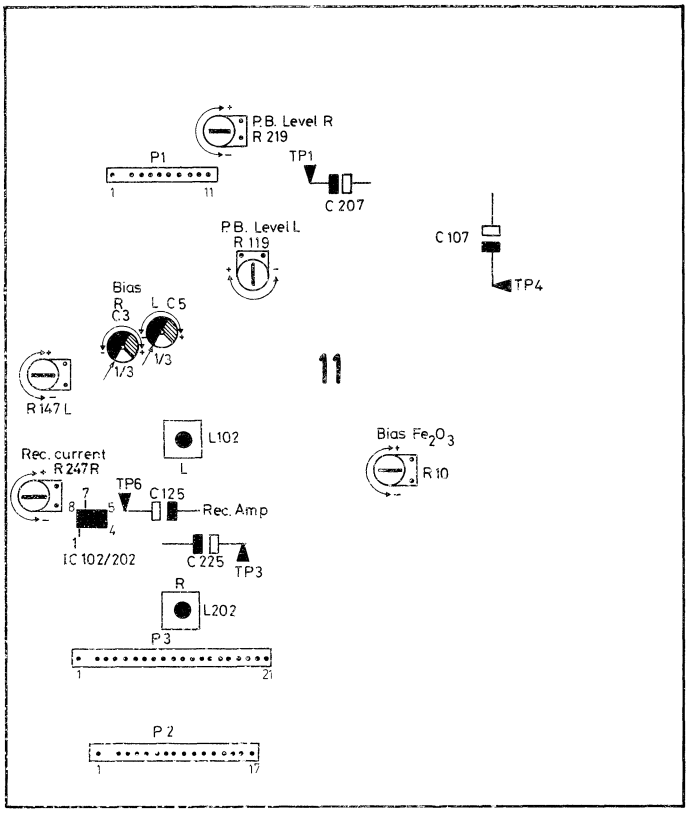
Insert Pegel tape 6780035 in cassette holder.
Connect LF voltmeter to 11TP3 (11TP6).
Adjust 11R219 (11R119) so that 725 millivolts is measured at 11TP3 (11TP6).

Speed



Insert wow tape 6780037 in cassette holder.
Connect wowmeter to 11TP3.
With potentiometer A in motor adjust for correct speed as read on the

wowmeter's driftmeter.
Adjustment to be made in the middle of the tape.



Record Boost

Connect tone generator to tape input and set to deliver 333 Hz in the 1-Volt range.
Activate record pause.
Adjust record potentiometer so that 316 millivolts is measured at pins 1 and (7) of 11IC202 (11IC102).
Set tone generator to 10 kHz.
Adjust 11L202 (11L102) so that 1 volts is measured at pins 1 and (7) at 11IC202 (11IC102).

Bias and Record Current

Insert CrO_2 tape for which bias adjustment is desired.
Set 11R247 (11R147) to midscale and 11C3 (11C5) to one-third of full scale.

Record Current

Connect tone generator to tape input and set to deliver 333Hz in the 1-volt range.
Activate record pause.
Adjust record potentiometer so that 200millivolts is measured with LF voltmeter at 11TP3 (11TP6).
While recording and playing back, respectively, adjust 11R247 (11R147) so that 200 millivolts is measured at 11TP3 (11TP6) during both record and playback.

Bias

Set tone generator to deliver 333 Hz in 100-millivolt range.
Adjust record potentiometer so that approx. 25 millivolts is measured with LF voltmeter at 11TP3 (11TP6).
While recording and playing back 333 Hz and 15 kHz, respectively, adjust 11C3 (11C5) so that the level at 15 kHz is 1dB higher than the level at 333 Hz (less bias gives treble boost; more bias gives treble cut).
Check record current.

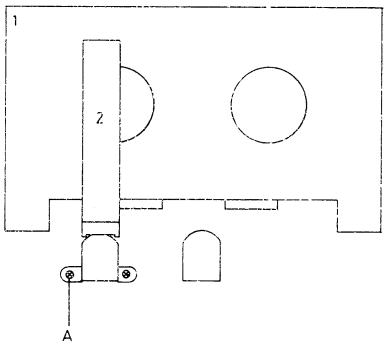
Fe_2O_3 Bias

CrO_2 bias **must** be adjusted, and tone generator and record potentiometer settings must be the same as for CrO_2 bias.

While recording and playing back 333 Hz and 15kHz, respectively, adjust 11R10 for identical levels at 333 Hz and 15 kHz as measured with LF voltmeter at 11TP3.

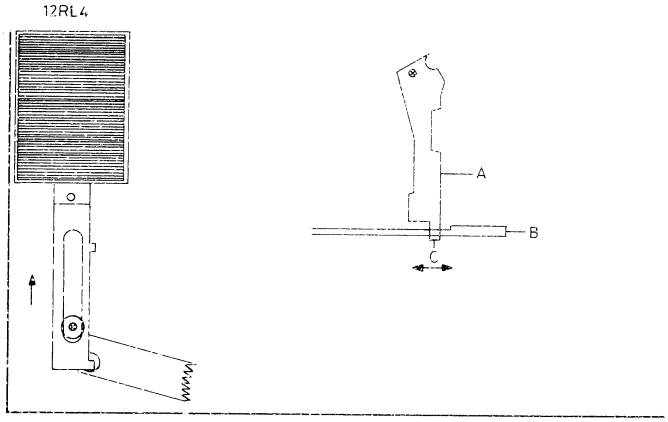
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MECHANICAL ADJUSTMENTS
TAPE RECORDER
Erase Head Height



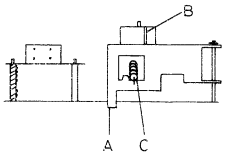
Erase head heights is adjusted with adjustment tools 1 and 2 from adjustment tool kit 3624020.
Place adjustment tools in cassette holder as shown in sketch.
Carefully press tape head bridge in against tool 2.
With screw A adjust until tape guide goes in above tool 2.

Rewind



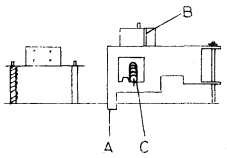
Press armature og magnet coil 12RL4 in as far as it will go.
Clearance between arm A and arm B should then be 0.5 - 1 mm. Adjustment is performed by bending the arm A so that tag C moves in one of the directions of the arrow.

Thrust Roller Free Travel

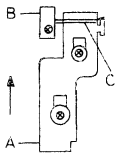


Press tape head bridge as far as it will go. Clearance between pin A on thrust roller arm and tape head bridge should then be approx. 0.5 mm.
Adjustment is performed by bending pin A.

Thrust Roller Thrust



Activate play.
With spring balance at point B pull thrust roller back.
Carefully release thrust roller until it just touches the capstan shaft.
Shift spring C to one of the two notches where the spring balance reading is closest to 300 p.
Example: Spring in right-hand notch gives 280 p and spring in left-hand notch gives 330 p. Since ideal force is 300 p right-hand notch is correct adjustment.



Eject Switch

Carefully push arm in direction of arrow, eject switch B should then open from travel of from 0.5 mm to 2 mm and before the cassette drawer releases mechanically.

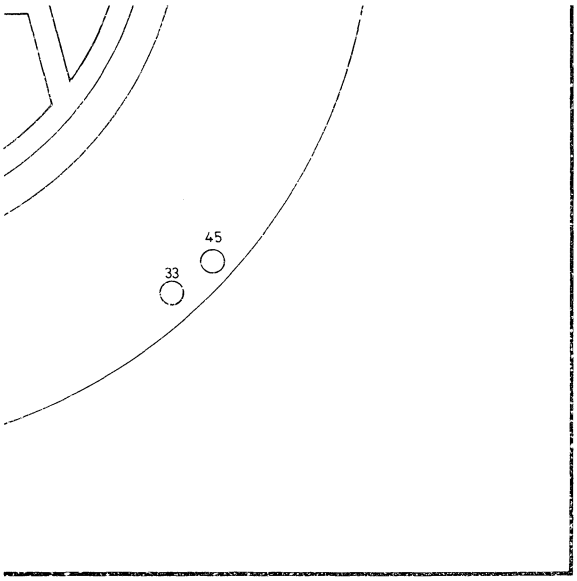
Lubrication

The need for lubrication is negligible, but the directions given below should be followed during overhauls and when replacing major mechanical components.

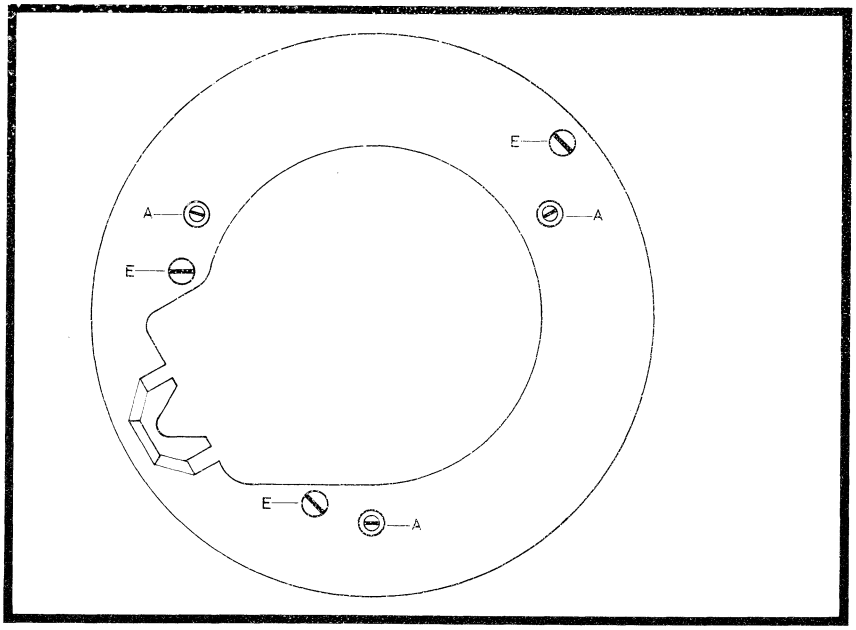
Bracket 12084: Against spring 12085 Arm 12024: Surfaces of contact against arm 12052. Balls 12037, 12059, 12061: Face slidings against leaf springs 12035, 12057, 12060, and chassis 12038. Shaft on holder 12096: Surface of contact against pulley 12097. Switch 12S4: Surface of contact against bracket 12008. Bracket 12008: Face sliding against screws 12007, 12042, and chassis 12038. Balls 12010, 12011, 12013: Face slidings against chassis 12038, and top chassis. Chassis 12038: Surface of contact against top chassis. Sensor 12065: Shaft both sides. Arms 12131, 12182: Face slidings against taps in top chassis. Pins 12130, 12201. Face slidings against top chassis. Arm 12173: Surface of contact against tap in top chassis. Bracket 12188: Face slidings against top chassis chassis 12038, and arms 12192, 12193. Arm 12192: Surfaces of contact against arms 12131, 12182. Arm 12193: Surfaces of contact against arm 12155, and angles 12199, 12200. Arm 12155: Surface of contact against arm 12173, and shaft for idler wheel 12152. Chassis 12156: Shafts for turntables 12022, 12044. Bracket 12199, 12200: All surfaces of contact.	3984020 Floil GB-TS-1
Bracket 12008: Face sliding at screw 12042 Arm 12155: Surface of contact at bushing 12154 Arm 12052: Surface of contact against chassis 12038.	3984216 Molykote (pasta G.)
Bracket 12072: Surface of contact against arm 12041. Damping system 12081: All gear-wheels Bearing 12165: Against flywheel 12161.	3984021 Eprohon Grease

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ADJUSTMENTS
RECORD PLAYER
Speed

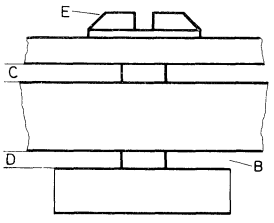


Remove the turntable so that the adjustment holes are accessible.
33 r.p.m./min. should be adjusted first. Adjust with 17R22.
45 r.p.m./min. is adjusted with 17R20.
Speed may be checked in two ways:
1 Stroboscope disc and lamp connected to the mains. This check gives an inaccuracy of approx. 2% because the 50 Hz mains frequency deviates approx. ± 1 Hz.
2. Stroboscope disc and stroboscobe lamp's tolerance which normally is superior to that of the mains freqyency.



Turntable height

Remove covers from screws A.
Place turntable and two LP records of normal weight on the motor. The motor should then clear all three transit bushings E (see points B).
The turntable should likewise be parallel with the chassis deck, and when the two LP records are removed from the turntable, distances C and D should be approximately identical.
Adjustments are made with screws A.

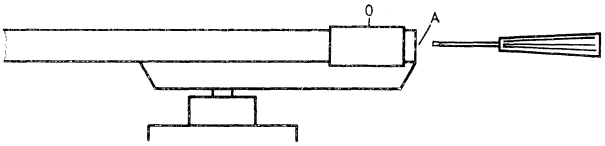


Pickup height



Put a record on the turntable.
Place the pickup arm above a run-off groove.
Adjust screw A until the distance from the stylus to the record is 3 mm.
Adjustment should be made with a counterbalance weight inserted.

Pickup arm balance



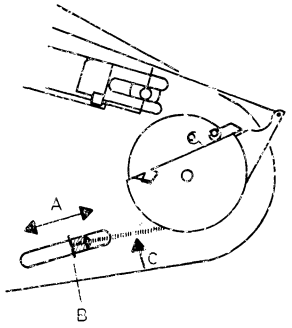
Set stylus pressure adjustment slider to 0 position.
Adjust screw A until the pickup arm is in exact balance.
Thereafter adjust stylus presure to recommended value.

Pickup arm parallelism



With screws C and D adjust until distances A and B are idential and the plane portion of the pickup is parallel with the top side of the record. Adjustment should be made with a counterbalance weight inserted.

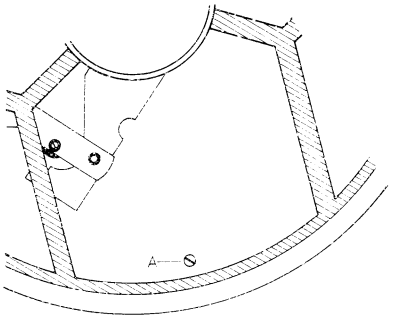
Antiskating



Put test record 3631045 on turntable.
Set stylus pressure to 1.5 grams with MMC 20 E.
Play cut 1.
Connect oscilloscope to right and left channels.
Push stud B in direction of arrow A until the same distortion is present in both channels (when distortion is present in left channel slacken spring C, for right channel tighten the spring).
Check:
Adjust stylus presure to 1.7 grams with MMC 20 E.
Again play cut 1 with oscilloscope connected to right and left channels; no distortion must occur.

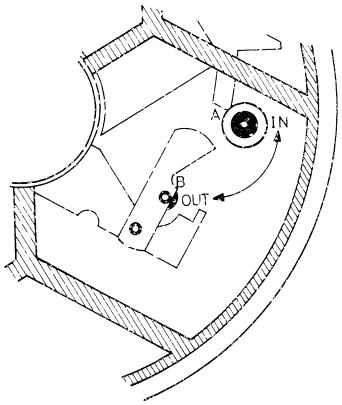
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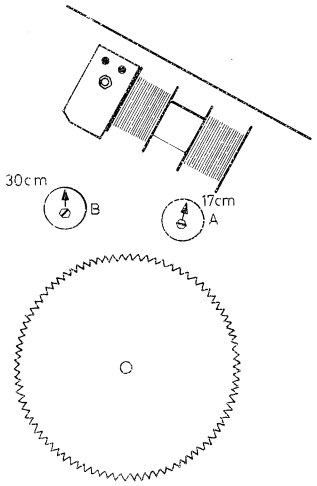
Automatic record-size mechanism



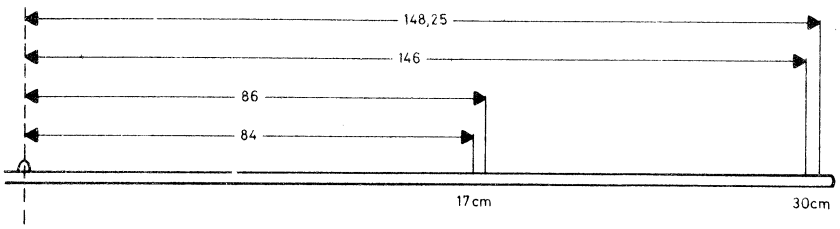
Take off turntable.
Place 60-gram weight on centre adaptor (60-gram and 20-gram weight kit 3624024).
Start turntable.
The centre adaptor should then be capable of lifting the weight, and the pickup arm should travel in to 17-cm lowering.
Adjustment can be made with screw A. Turn screw A anticlockwise for greater lifting power and clockwise for less lifting power.
Place weights of 60 and 20 grams on the centre adaptor.
Start turntable.
The centre adaptor should then be incapable of lifting the weights, and the pick up arm should travel in to 30-cm lowering.
Adjustment should likewise be made with screw A.

Pickup arm lowering

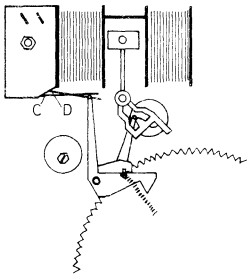




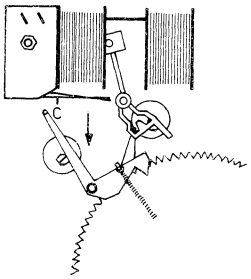
Pickup arm lowering can be adjusted both from above and from below.
The adjustment described here is made from above.
Take 60-gram weight on centre adaptor.
Start turntable.
With eccentric A adjust until the pickup arm lowers inside the field marked 17 cm in the accompanying drawing.
Place 60- and 20-gram weights on the centre adaptor.
Start turntable.
With eccentric B adjust until the pickup arm lowers inside the field marked 30 cm in the accompanying drawing.
When making the adjustment from below, a single record (17 cm) and an LP record (30 cm) may be used instead of weights.



Motor switch
(15RL1)



When the Motor switch is open (the armature of the mechanical relay in its mid-position) the cleareance between the C and D sections of the switch should be 0.5 - 1 mm. This is adjusted by bending the D-section of the switch.



When the Motor switch is closed, the C-section of the switch should press at approx. 15 p in the direction of the arrow.
This is adjusted by bending the C-section of the switch.

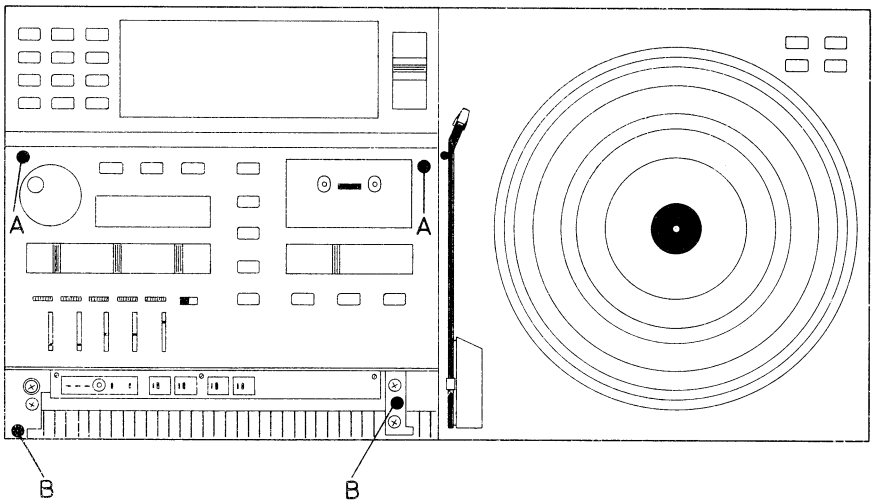
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Technical specifications

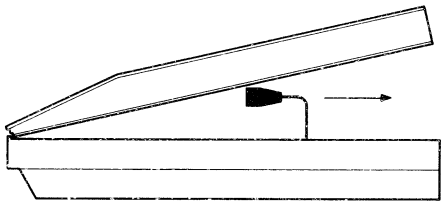
Amplifier	Power output RMS DIN	2 × 40 watts/4 ohms
		2 × 30 watts/8 ohms
	Power output 20–20,000 Hz	2 × 30 watts/4 ohms
		2 × 25 watts/8 ohms
	Harmonic distortion -26 dB	< 0.1 %
	Harmonic distortion	< 0.15 %
	Intermodulation	< 0.3 %
	Frequency range ± 1.5 dB	20–30,000 Hz
	Power bandwidth	10–50,000 Hz
	Damping factor	> 25
	Input tape copy	150 mV/470 kohms
	Input microphone	0.1 mV/470 ohms
	Signal-to-noise ratio phono	> 82 dB
	Signal-to-noise ratio tape	> 82 dB
	Channel separation 1000 Hz	> 50 dB
	250–10,000 Hz	> 35 dB
	Output headphones	Max. 20 V/200 ohms
	Bass control at 40 Hz	± 11 dB
	Treble control at 12,500 Hz	± 11 dB
FM	FM sensitivity stereo 46 dB	< 25 µV/75 ohms
	Frequency range ± 1.5 dB	20–15,000 Hz
	Harmonic distortion	< 0.4 %
	Stereo channel separation	35 dB
AM	Sensitivity LW 20 dB	< 100 µV
	Sensitivity MW 20 dB	< 80 µV
Record player	Pickup	MMC 20 E
	Stylus	Elliptical diamond
	Radius of curvature	5 x 17 µm
	Frequency range	20 - 20,000 Hz ±2.5 dB
	Channel separation 1000 Hz	>20 dB
	400 - 10,000 Hz	>15 dB
	Channel difference	<2 dB
	Recommended stylus pressure	15 mN/1.5 gram
	Compliance	20 µm/mN
	Effective tip mass	0.5 mg
	Sensitivity mV/cm/sec.	>0.6 mV/47 kohm
	Output 5 cm lateral	>2.12 mV/47 kohms
	Wow and flutter, DIN	< ± 0.09 %
	Wow and flutter, WRMS	< ± 0.045 %
	Rumble weighted	> 65 dB
	Rumble unweighted	> 45 dB
	Speed deviation	< 0.5 %
Taperecorder	Wow and flutter	< ± 0.15 %
	Speed deviation	< ± 1.5 %
	Fast forward and rewind C60	70 sec.
	Frequency range chrom	30–15.000 Hz
	Signal-to-noise ratio chrom Dolby NR	> 64 dB
	Signal-to-noise ratio chrom	> 57 dB
	Erasure	> 70 dB
Other data	Power supply	10–130–220–240 volts
	Frequency	50–60 Hz
	Power consumption	20–250 watts
	Dimensions W×H×D	72 × 9.5 × 38 cm
	Weight	16.5 kg

Subject to change without notice.

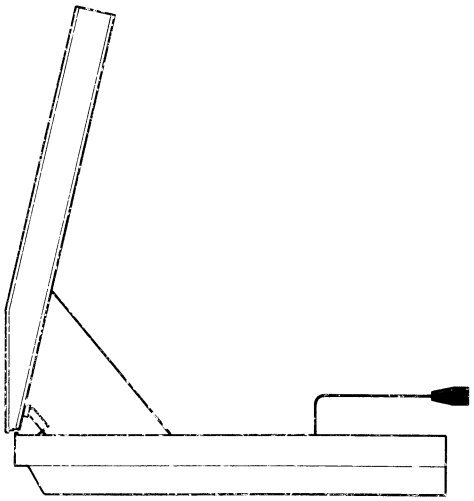
DISMANTLING
Operation section



Remove screws A and B. Lift the back edge of the unit approx. 10 cms (4") and disconnect the internal connections for loudspeakers and aerial.

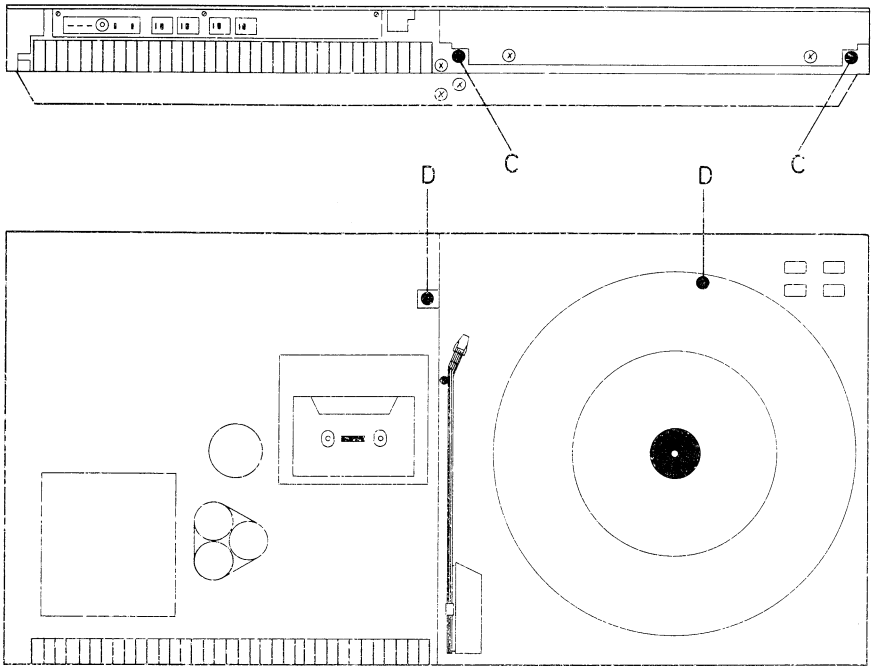


The operation chassis can now be lifted into servicing position on the support mounted on the inside of the cabinet.



The loudspeakers can be connected direct to the wires from the output amplifier.

Record player section



Remove screws C and D when the operating section has been lifted into servicing position. Now lift the back of the record player into servicing position just like the control section.

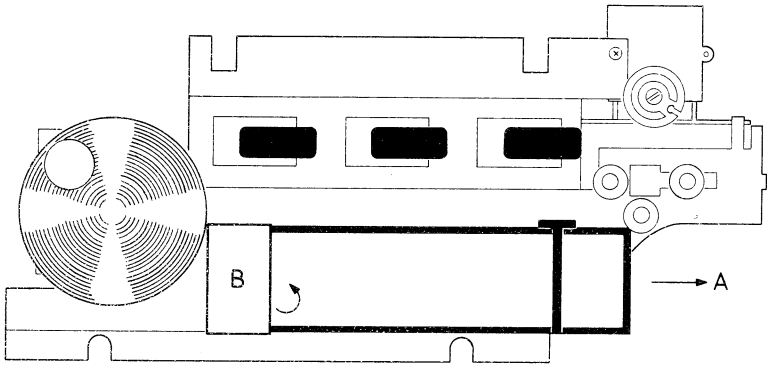
SERVICE TIPS

Measurement of defective output amplifier

Should a fault arise in an output amplifier resulting in DC on the loudspeaker output, the fault switch circuit will put the set in STAND-BY. The connected loudspeakers must then be disconnected and the set can now be turned on and measurements be made unless there is a direct short-circuit in the output transistors.

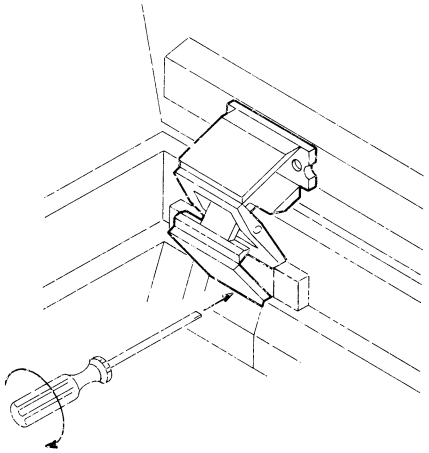
Replacing dial lamp

The AM module is removed. The dial housing is pushed in the direction of the arrow (A). The cover (B) can now be opened and the lamp replaced.



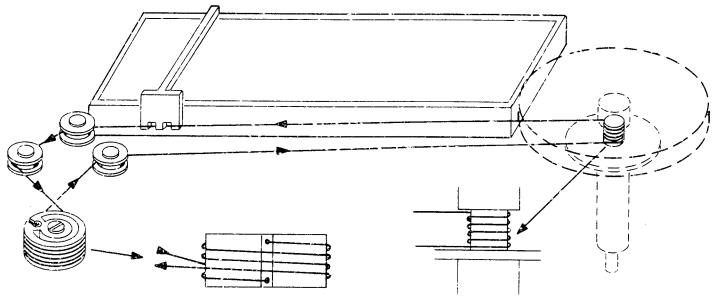
After replacement the dial housing is pushed back into its original position.

Removal of servicing hinges



If removal of the operation chassis and the record player chassis is required, the hinges can be removed by twisting with a broad and strong screwdriver under the hinge.

Dial drive



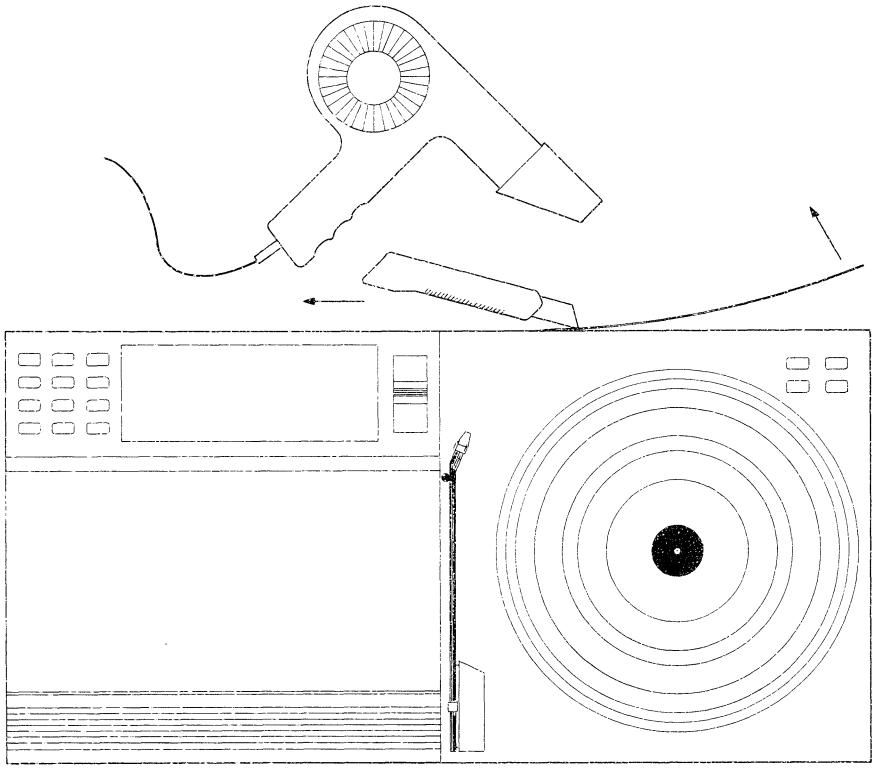
Dial cord (index No. 3955016) is cut off at a length of approx. 65 cms (25½") and knotted at both ends with 60 cms (23½") between the knots. The tuning capacitor is turned clockwise and the cord is fitted as shown in the drawing.

Metal tapes

The Beocenter 7000 can be modified to use metal tapes instead of CrO_2 tapes. A modification kit is available, index No. 8022105, consisting of all the parts necessary and a modification instruction.

Cabinet repairs and panel replacement

The cabinet kit consists of a set of veneer panels with a back coat of self-adhesive tape and protective paper.



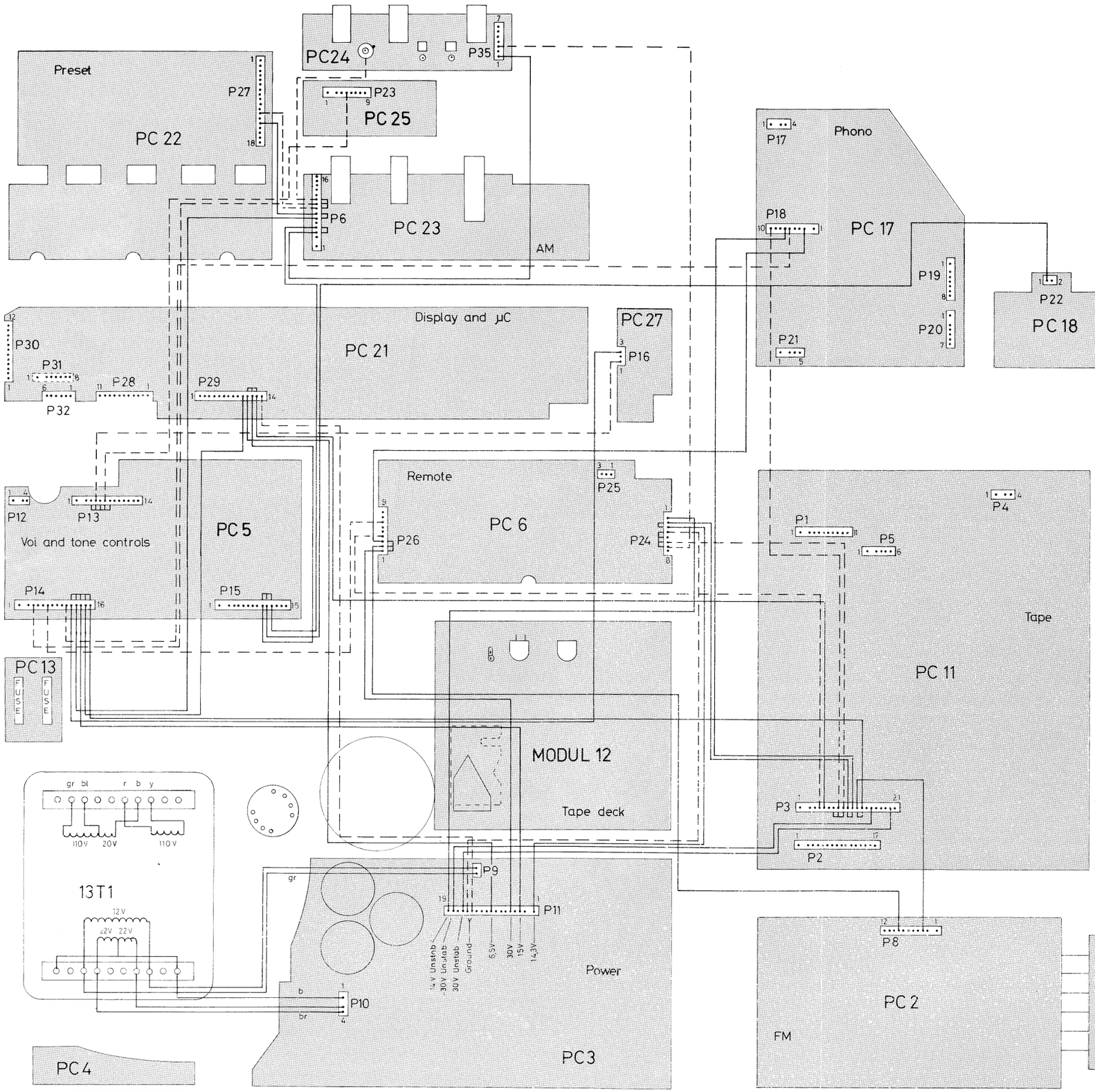
The easiest way to remove the old panels is to heat them with a hot air blower (hair drier) and slowly to peel the old veneer panels off. It is advisable to follow with a Stanley-type knife along the edge of the foam chassis while peeling the veneer off.

If the adhesive coat is intact after panel removal the new panels may be fitted direct on top of the old coat of adhesive. If, however, the old coat is rough it must be removed with benzine prior to the fitting of the new panels.

The side panels must be stuck on first and in such a way that they flush with the front edge. The front panel must be stuck on so that one corner fits the side panel and after the mounting, the second corner must be cut flush by using a *sharp* Stanley-type knife or a mortise chisel.

Wow frequencies

Frequency	Source of Failure	Pos. No.
1,1 Hz	Thrust roller	12049
1,3 Hz	Take-up reel	12044
4,3 Hz	Drive belt	12162
4,5 Hz	Take up belt	12140
5,2 Hz	Idler wheel	12041
6,0 Hz	Flywheel	12161
11,8 Hz	Clutch	12135
36,5 Hz	Pulley	12101



Ledningsdiagram

Diagrammet viser PC pladernes placering, når apparatet er anbragt i serviceposition. Ledningsforbindelserne er angivet for spændingsforsyningerne (helt optrukne linier) og for stelledninger (stiplede linier).
På PC plader, hvor der er kortslutninger mellem to eller flere ben i et stik, er dette markeret ved siden af stikket.

Eksempel: 30 V forsyningens fordeling.
Start på PC3 - P11 ben 7 ledning til PC6 - P26 ben 1.
Forbindelse mellem ben 1 - 2 - 3 i P26.
Fordeling fra PC6 - P26 ben 2 til PC2 - P8 ben 9 og fra PC6 - P26 ben 3 til PC17 - P18 ben 3.

Wiring Diagrams

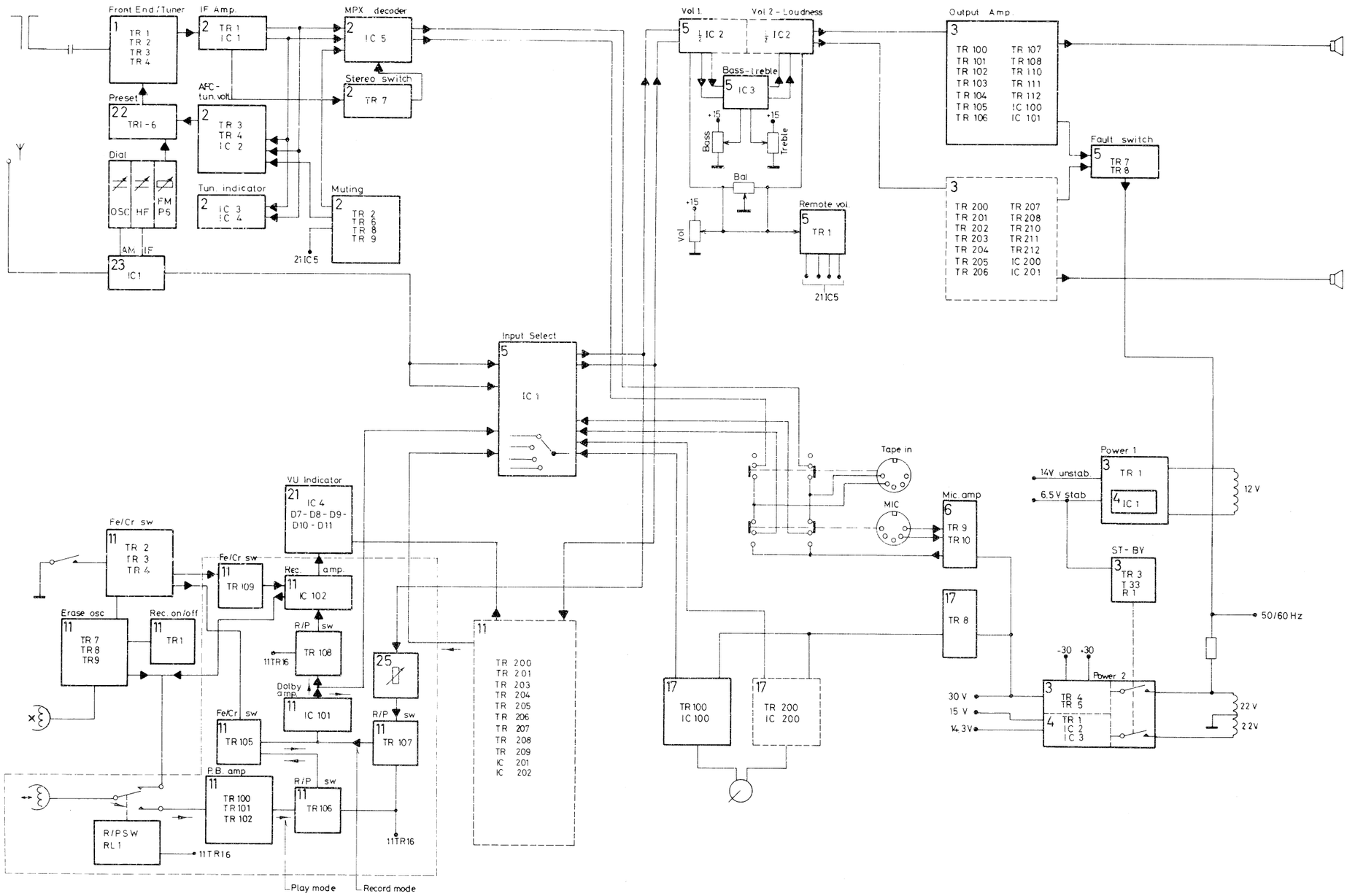
The diagram shows placement of PC boards with the set placed in position for servicing. Wiring connections are given for power supplies (solid lines) and for ground connections (dashed lines). On PC boards where two or more pins of a connector are shorted together, this is indicated adjacent to the connector.

Example:30 V supply distribution.
Start at pin 7 of P11 on PC3, wire to pin 1 of P26 on PC6.
Connection between pins 1, 2 and 3 of P26.
Distribution from pin 2 of P26 on PC6 to pin 9 of P8 on PC2 and from pin 3 of P26 on PC6 to pin 3 of P18 on PC17.

Leitungsdiagram

Das Diagramm zeigt die Anordnung der Leiterplatten. Wenn das Gerät in Serviceposition angebracht ist. Die Leitungsverbindungen sind angegeben für die Spannungsversorgungen (voll ausgezogene Linien) und für masseleitungen (gestrichelte Linien).
Auf Leiterplatten, bei denen Zwischen zwei oder mehr Stiften eines Steckers Kurzschlüsse vorhanden sind, ist dieses neben dem Stecker markiert.

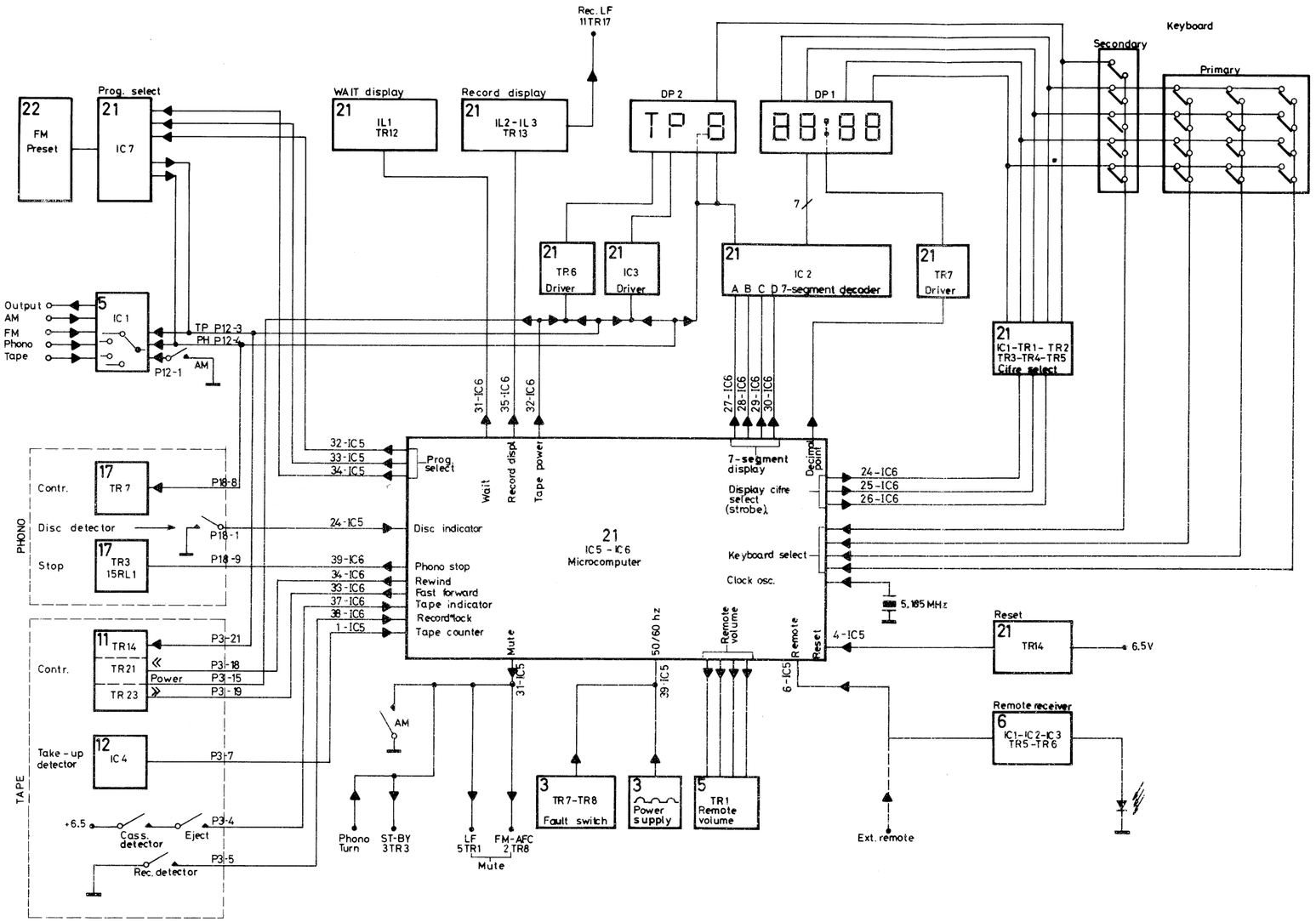
Beispiel: 30 V Versorgungsverteilung.
Start auf PC3-P11 Stift 7, Leitung zur PC6-P26 Stift 1.
Verbindung zwischen Stift 1-2-3 im P26.
Verteilung von PC6-P26 Stift 2 zur PC2-P8 Stift 9 und von PC6-P26 stift 3 zur PC17-P18 Stift 3.



Signalbehandling
Diagrammet er rent principiel, hvorfor der ikke kan sammenlignes med instruktionsdiagrammet.
I de enkelte funktionsblokke er angivet et nummer som fortæller på hvilken PC-plade funktionen findes. Samtidig er der angivet hvilke aktive komponenter der indgår i funktionen.
Pilene angiver signalets vej fra funktion til funktion.

Signal Processing
The diagram only illustrates principles of operation and therefore does not permit comparisons with the instruction diagram.
A number in each functional block indicates on what PC board the function is located. Also listed are the active components taking part in the function.
Arrows indicate the signal path from function to function.

Signalbehandlung
Das Blockschaltbild ist eine Prinzipschaltung, weshalb es nicht mit dem Instruktionsblockschaltbild vergleichbar ist.
In den einzelnen Funktionsblöcken ist eine Nummer angegeben, die besagt auf welcher Leiterplatte die Funktion zu finden ist. Es ist gleichzeitig angegeben worden, welche aktiven Komponenten die Funktion enthält.
Die Pfeilmarkierungen geben den Signalweg von Funktion zu Funktion an.



FUNCTION TABLE MICRO-COMPUTER																		
	CONDITIONS			FUNCTION	RESULTS													
	21IC5	21IC6	21IC6		21IC5								21IC6					
PIN	24	37	38		27	28	29	30	31	32	33	34	32	33	34	35	39	
	0			PHONO					1	0	0	0	1	1	1	1	0	
				P1					1	1	0	0	1	1	1	1	1	
				P2					1	0	1	0	1	1	1	1	1	
				P3					1	1	1	0	1	1	1	1	1	
				P4					1	0	0	1	1	1	1	1	1	
				P5					1	1	0	1	1	1	1	1	1	
				P6					1	0	1	1	1	1	1	1	1	
		1		TAPE					1	1	1	1	0	0	0	1	1	
				STAND BY					0	1	1	1	1	1	1	1	1	
			1	REC. OPEN														
		1		COUNTER ADDR.									0	1	1			
				P1-REC. PAUSE					1	1	0	0	0	1	1	1/0	1	
				P1-REC.					1	1	0	0	0	0	0	0	1	
		1		»									0	0	1	1		
		1		«									0	1	0	1		
				MIN. VOL.(Remote)	0	0	0	0										
				MAX. VOL.(Remote)	1	1	1	1										

FUNCTION TABLE 211C7 (SN 7445)										
FUNCTION	INPUTS				OUTPUT AT PINS					
	D	C	B	A	1	2	3	4	5	6	7	9
PHONO	0	0	0	0	0	1	1	1	1	1	1	1
P1	0	0	0	1	1	0	1	1	1	1	1	1
P2	0	0	1	0	1	1	0	1	1	1	1	1
P3	0	0	1	1	1	1	1	0	1	1	1	1
P4	0	1	0	0	1	1	1	1	0	1	1	1
P5	0	1	0	1	1	1	1	1	1	0	1	1
P6	0	1	1	0	1	1	1	1	1	1	0	1
TAPE	0	1	1	1	1	1	1	1	1	1	1	0
ST-BY	0	1	1	1	1	1	1	1	1	1	1	0

FUNCTION TABLE 211C2 (SN74247)										
DECIMAL	INPUTS				OUTPUTS							
ON DISPLAY	D	C	B	A	a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	1	1	0	0	1	1	1	1
2	0	0	1	0	0	0	1	0	0	1	0
3	0	0	1	1	0	0	0	0	1	1	0
4	0	1	0	0	1	0	0	1	1	0	0
5	0	1	0	1	0	1	0	0	1	0	0
6	0	1	1	0	0	1	0	0	0	0	0
7	0	1	1	1	0	0	0	1	1	1	1
8	1	0	0	0	0	0	0	0	0	0	0
9	1	0	0	1	0	0	0	0	1	0	0

FUNCTION TABLE 211C1 (SN74LS42)									
INPUTS				OUTPUT AT PINS					
D	C	B	A	2	3	4	5	6	
0	0	0	1	0	1	1	1	1	
0	0	1	0	1	0	1	1	1	
0	0	1	1	1	1	0	1	1	
0	1	0	0	1	1	1	0	1	
0	1	0	1	1	1	1	1	0	

FUNCTION TABLE TAPE DECK					
FUNCTION	PLUG AND PINS				
	P3 19	P3 18	P3 15	P3 21	P3 17
»	0	1	0		
«	1	0	0		
>	0	0	0	0	
REC ⊖	1	1	0	1	
REC	0	0	0	1	1
STOP	1	1	1		
REC WAIT	0	0	0	1	0

Betjeningssystemet

Diagrammet er rent principiel, hvorfor der ikke kan sammenlignes med instruktionsdiagrammet.
I de enkelte funktionsblokke er angivet et nummer som fortæller på hvilken PC-plade funktionen findes. Samtidig er der angivet hvilke aktive komponenter der indgår i funktionen.
Pilene angiver informationsretningen for microcomputeren. Benævnelserne i microcomputeren er ækvivalente med benævnelserne i instruktionsdiagrammet.
Sandhedstabellerne, kan sammenholdt med ben numrene på microcomputeren og stikben numrene (eks. P3 - 4), benyttes til blokfejlfinding i apparatet.

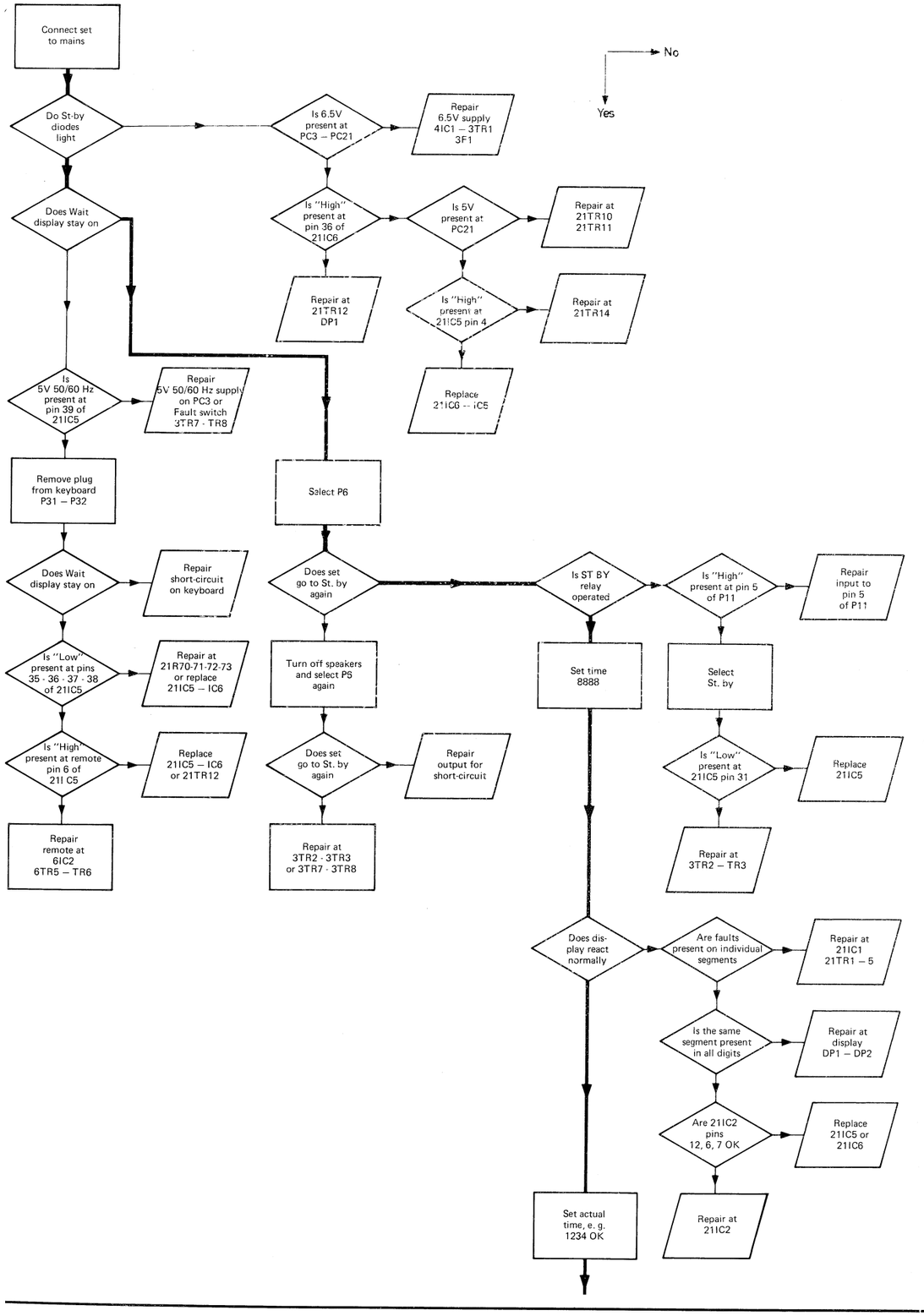
Control System

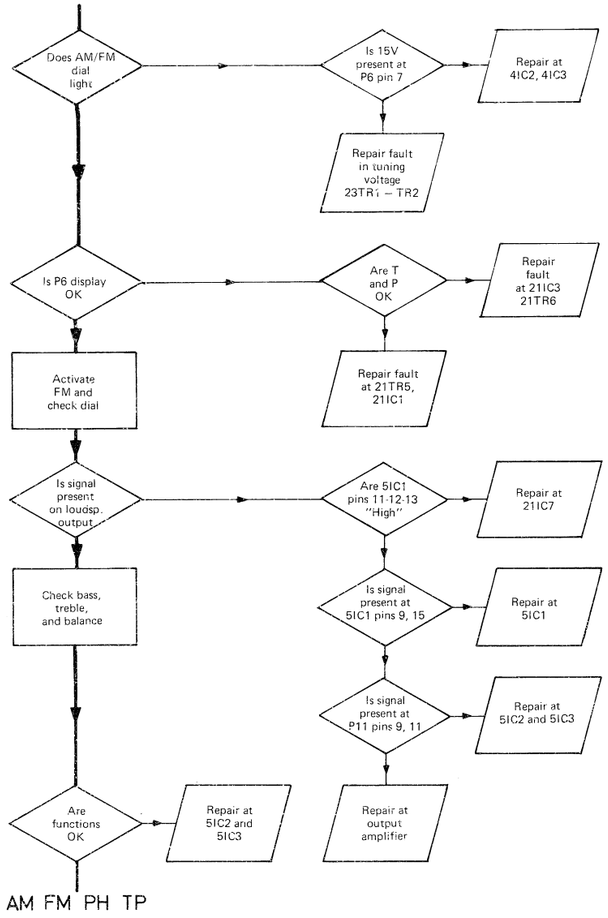
The diagram only illustrates principies of operation and therefore does not permit comparisons with the instruction diagram.
A number in each functional block indicates om what PC board the function is located. Also listed are the active components taking part in the function.
Arrows indicate direction of information for the computer. Designations in the microcomputers are equivalent to designations in the instruction diagram.
Together with the pin Nos. of the microcomputer and the Nos. of the plug pins (ex. P3 - 4) the truth tables may be used for block fault finding in the set.

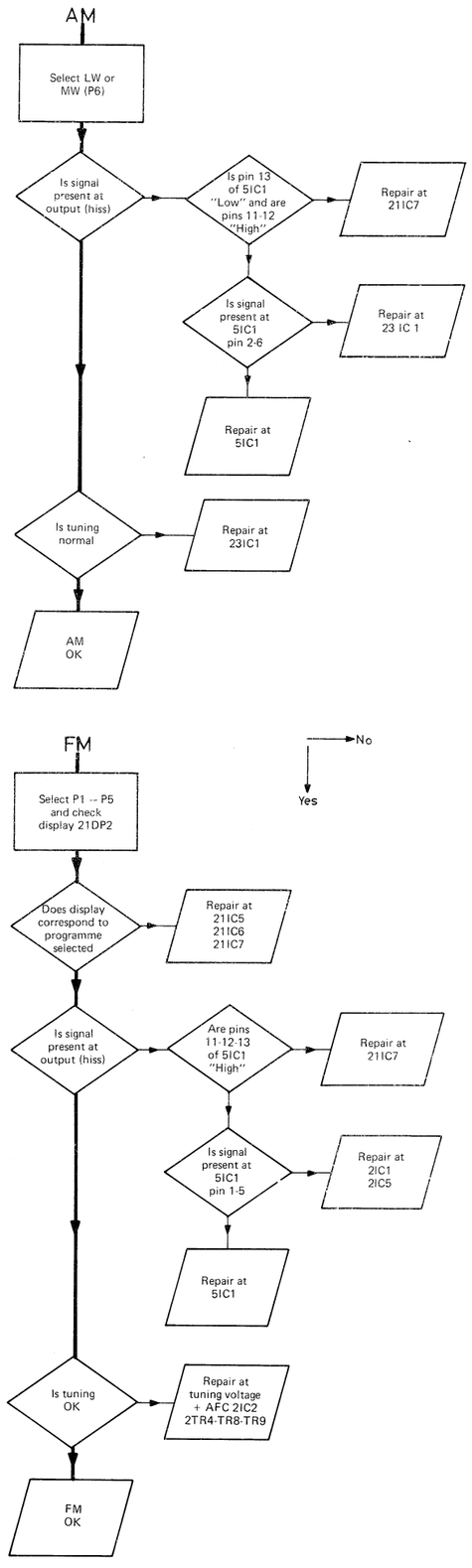
Bedienungssystem

Das Blockschaltbild ist eine reine Prinzipschaltung, weshalb es nicht mit dem Instruktionsblockschaltbild vergleichbar ist.
In den einzelnen Funktionsblöcken ist eine Nummer angegeben, die besagt,auf welcher Leiterplatte die Funktion zu finden ist. Es ist gleichzeitig angegeben worden, welche aktiven Komponenten die Funktion enthält.
Die Pfeilmarkierungen geben die Informationsrichtung für den Mikrocomputer an. Die Bezeichnungen im Mikrocomputer entsprechen den Bezeichnungen im Instruktionsblockschaltbild.
Die Wahrheitstabellen können zusammen mit den Stiftnummern des Microcomputers und den Stiftnummern der Stecker (z.B. P3 - 4) für Blockfehlerortsbestimmung im Gerät benutzt werden.

INSTRUCTION FOR BLOCK FAULT FINDING

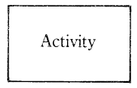






KEY TO INSTRUCTIONS

Fault finding start up is always begun in



process frame and continued to the first decision frame,

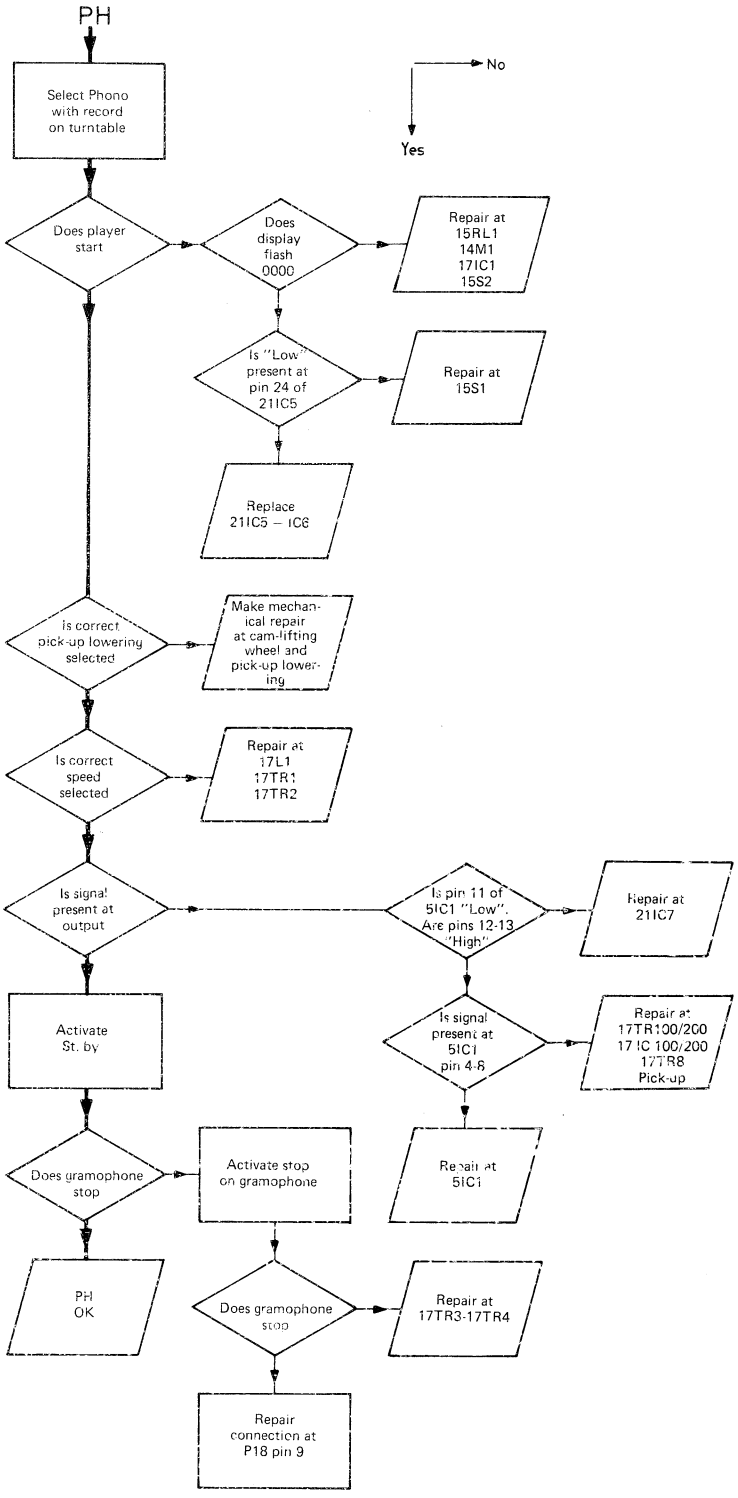


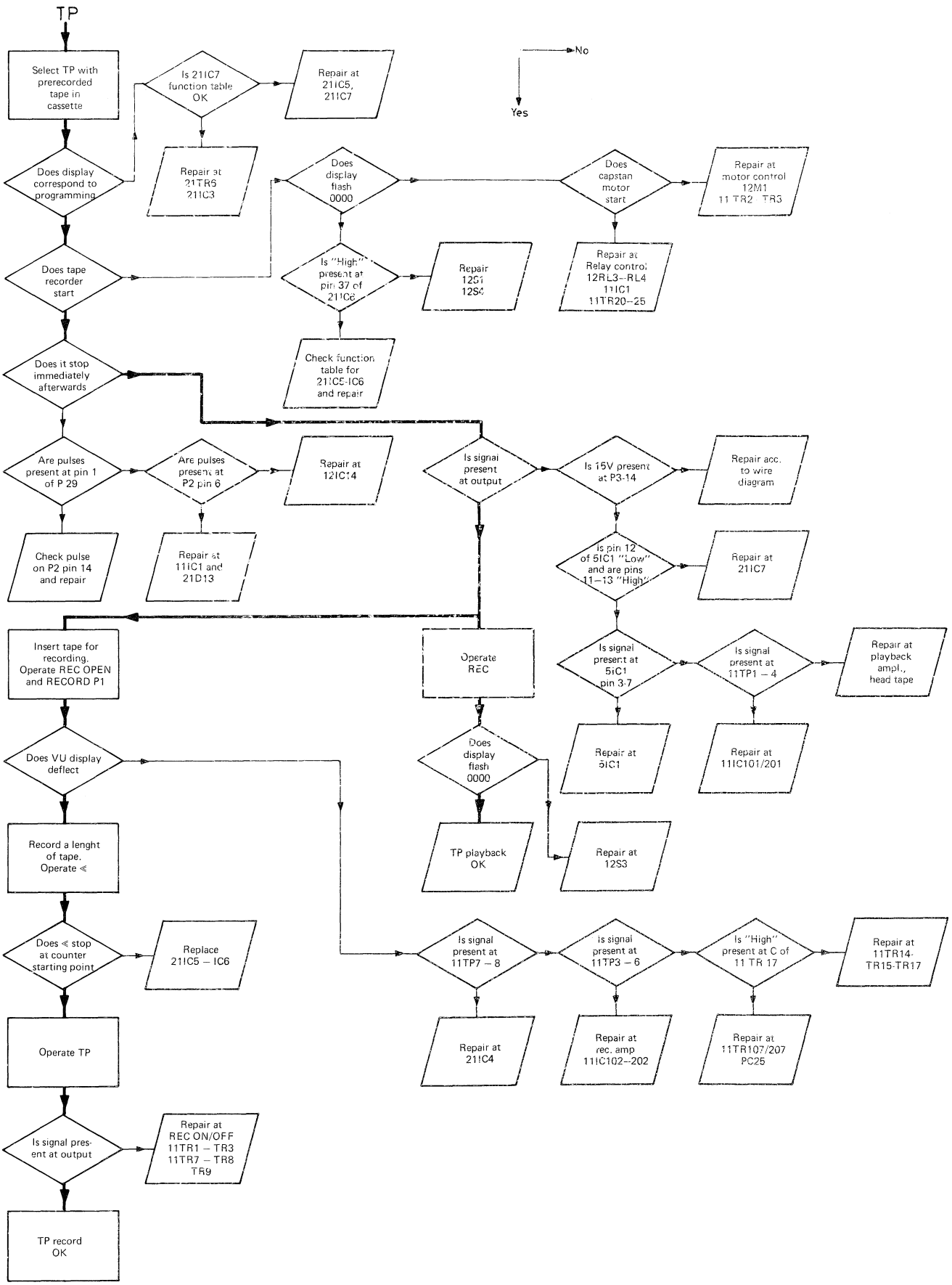
indicated by the arrow.
If the reply to the question in the decision frame is »no«, follow the arrow pointing to the right; if »yes« follow the arrow pointing downward.
If the reply appears in an output frame



the error has been localized as being either among the components named or the functions that control these components.

The heavily drawn line, that traces through the diagram, is the »OK« path.


PH
Select Phono with record on turntable
No
Yes
Does player start
Does display flash 0000
Repair at 15RL1 14M1 17IC1 15S2
Is "Low" present at pin 24 of 21IC5
Repair at 15S1
Replace 21IC5 – IC6
Is correct pick-up lowering selected
Make mechanical repair at cam-lifting wheel and pick-up lowering
Is correct speed selected
Repair at 17L1 17TR1 17TR2
Is signal present at output
Is pin 11 of 5IC1 "Low". Are pins 12-13 "High"
Repair at 21IC7
Activate St. by
Is signal present at 5IC1 pin 4-8
Repair at 17TR100/200 17 IC 100/200 17TR8 Pick-up
Does gramophone stop
Activate stop on gramophone
Repair at 5IC1
PH OK
Does gramophone stop
Repair at 17TR3-17TR4
Repair connection at P18 pin 9


TP
Select TP with prerecorded tape in cassette
Is 21IC7 function table OK
Repair at 21IC5, 21IC7
No
Yes
Does display correspond to programming
Repair at 21TR5 21IC3
Does display flash 0000
Does capstan motor start
Repair at motor control 12M1 11 TR2 TR3
Does tape recorder start
Is "High" present at pin 37 of 21IC6
Repair 12S1 12S4
Repair at Relay control 12RL3--RL4 11IC1 11TR20--25
Check function table for 21IC5-IC6 and repair
Does it stop immediately afterwards
Are pulses present at pin 1 of P 29
Are pulses present at P2 pin 6
Repair at 12IC14
Is signal present at output
Is 15V present at P3-14
Repair acc. to wire diagram
Check pulse on P2 pin 14 and repair
Repair at 11IC1 and 21D13
Is pin 12 of 5IC1 "Low" and are pins 11–13 "High"
Repair at 21IC7
Insert tape for recording. Operate REC OPEN and RECORD P1
Operate REC
Is signal present at 5IC1 pin 3-7
Is signal present at 11TP1 – 4
Repair at playback ampl., head tape
Does VU display deflect
Does display flash 0000
Repair at 5IC1
Repair at 11IC101/201
Record a lenght of tape. Operate ≪
TP playback OK
Repair at 12S3
Does ≪ stop at counter starting point
Replace 21IC5 – IC6
Is signal present at 11TP7 – 8
is signal present at 11TP3 – 6
Is "High" present at C of 11 TR 17
Repair at 11TR14 TR15-TR17
Operate TP
Repair at 21IC4
Repair at rec. amp 11IC102--202
Repair at 11TR107/207 PC25
Is signal present at output
Repair at REC ON/OFF 11TR1 – TR3 11TR7 – TR8 TR9
TP record OK

END-TEST AFTER REPAIRS

Carry out the following procedure, in the sequence indicated, to perform a test check-out of all the electrical functions of the equipment.

Operation to be performed	Feedback from the equipment
1. Connect to mains, antennas and loudspeakers.	»Wait« display goes on in approx. 3 seconds and »St. by« diodes light.
2. Actuate CLOCK - SET TIME - AT TIME - COUNTER ADDRESS - REC OPEN - ST. BY.	Each actuation causes the »wait« display to light; actuation of »counter« and »rec open« causes »0000« to blink three times on the display.
3. Actuate P1, AFC OFF, CLOCK and adjust FM preset to a programme	Display shows »P1« and »00:01«. The tuning diodes indication corfirms correct tuning.
4. Off-adjust the programme and activate AFC ON.	AFC locks and the balance lamp indicates tuning.
5. Actuate VOLUME - BALANCE - BASS - TREBLE - LOUDNESS - SPEAKERS.	Check by listening.
6. Actuate P2 - P3 - P4 - P5 and adjust the respective presets.	Check by listening.
7. Actuate P6 - FM - MW - LW and adjust the dial wheel.	Check by listening.
8. Place a 17 cm. record (45 r.p.m.) on the gramophone and actuate PHONO.	Gramophono starts up at 45 r.p.m. and engages the record.
9. Actuate 33 and 45 on the gramophone.	Gram. revolves at 33 and 45 r.p.m., respectively.
10. Actuate STOP on the gramophone	Turntable stops.
11. Place a 30 cm. record (33 r.p.m.) on the gramophone and actuate TURN.	Turntable turns.
12. Actuate PHONO.	Gramophone starts up at 33 r.p.m. and engages the record.
13. Insert a pre-recorded tape and actuate TAPE - RECORD.	Gramophone stops; tape recorder starts. Display shows »TP« and »0000« blinks three times after which the counter counts normally.
14. Actuate DOLBY NR.	Check by listening.
15. Actuate >> and let the tape run to its end.	When the tape reaches its end, the tape recorder stops with display in position TAPE.
16. Insert a tape for recording and actuate P1 and RECORD.	Display shows »P1« and »0000« blinks three times.
17. Actuate REC OPEN and RECORD.	Reading on the VU indicator and the record display blinks.
18. Adjust for recording level and actuate RECORD.	Tape recorder starts to record and the counter display starts at »0000«.

19. Actuate RECORD and note the position of the counter when the tape stops.	Wait display lights; VU indication and record display go out whereas the recorder will continue for four seconds. After this - same as point 17.
20. Actuate RECORD.	Tape recorder starts up again.
21. Connect microphone at MIC.	Microphone signal appears on the VU indicator and is audible in the loudspeaker.
22. Connect an external tape recorder to TAPE IN and remove the microphone.	Signal from external tape recorder is present on the VU indicator and in the loudspeaker.
23. Actuate P3.	The tape recorder continues and the display blinks three times.
24. Actuate <<.	Tape recorder rewinds back to counter position previously noted, minus approx. 5, and then stops.
25. Actuate TAPE.	Tape recorder starts. Check by listening to recording.
26. Actuate PHONO	Gramophone starts; tape recorder stops.
27. Actuate ST. BY.	Gramophone goes to stop, tuning diodes go off and the stand by diodes light.
28. Actuate the remote control functions - one by one - at a distance of at least 0,5 m.	Each actuation causes the wait and respective function display to light.

Bang&Olufsen

Beocenter 7002
Type 1801



MEKANISK STYKLISTE/ MECHANICAL PARTS

NEDERSTE CHASSIS/BOTTOM CHASSIS

13Modul	3302318	Skærm f. sikringsholder	Screen f. fuse holder
	3172085	Isolationsstykke f. sikringsholder	Insulation for fuse holder
	2938143	Bøsning f. sikringsholder	Bushing for fuse holder
13C1	4200421	1000 µF -10+50% 6.3V	1000 µF -10+50% 6.3V

Øvrige dele se side 4-1/Other parts, see page 4-1

ØVERSTE CHASSIS/TOP CHASSIS

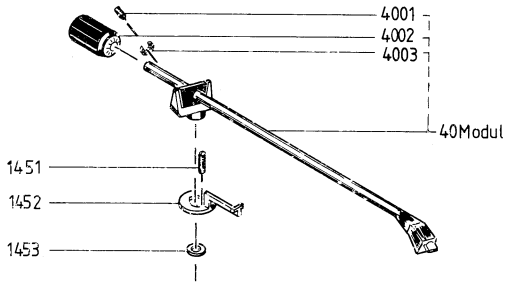
2046	3168160	Betjeningspanel	Operating panel
2047	2775791	Knapsæt	Set of buttons
29Modul	8002482	PC, sekundær betjening	PC, secondary operation
34Modul	8002447	HP-Tape Indicator	HP-Tape Indicator

Øvrige dele se side 4-4/Other parts, see page 4-4

GRAMMOFONCHASSIS/CHASSIS, RECORD PLAYER

1408	3164412	Støvlåg	Dust cover
1435	8954660	Pick-up MMC 20 EN (replacement)	Pick-up MMC 20 EN (replacement)
1438	3458245	Topplade	Top plate
1451	2072101	Løfteskrue	Lifting screw
1452	2854076	Løftearm	Lifting arm
1453	2622271	Skive	Washer

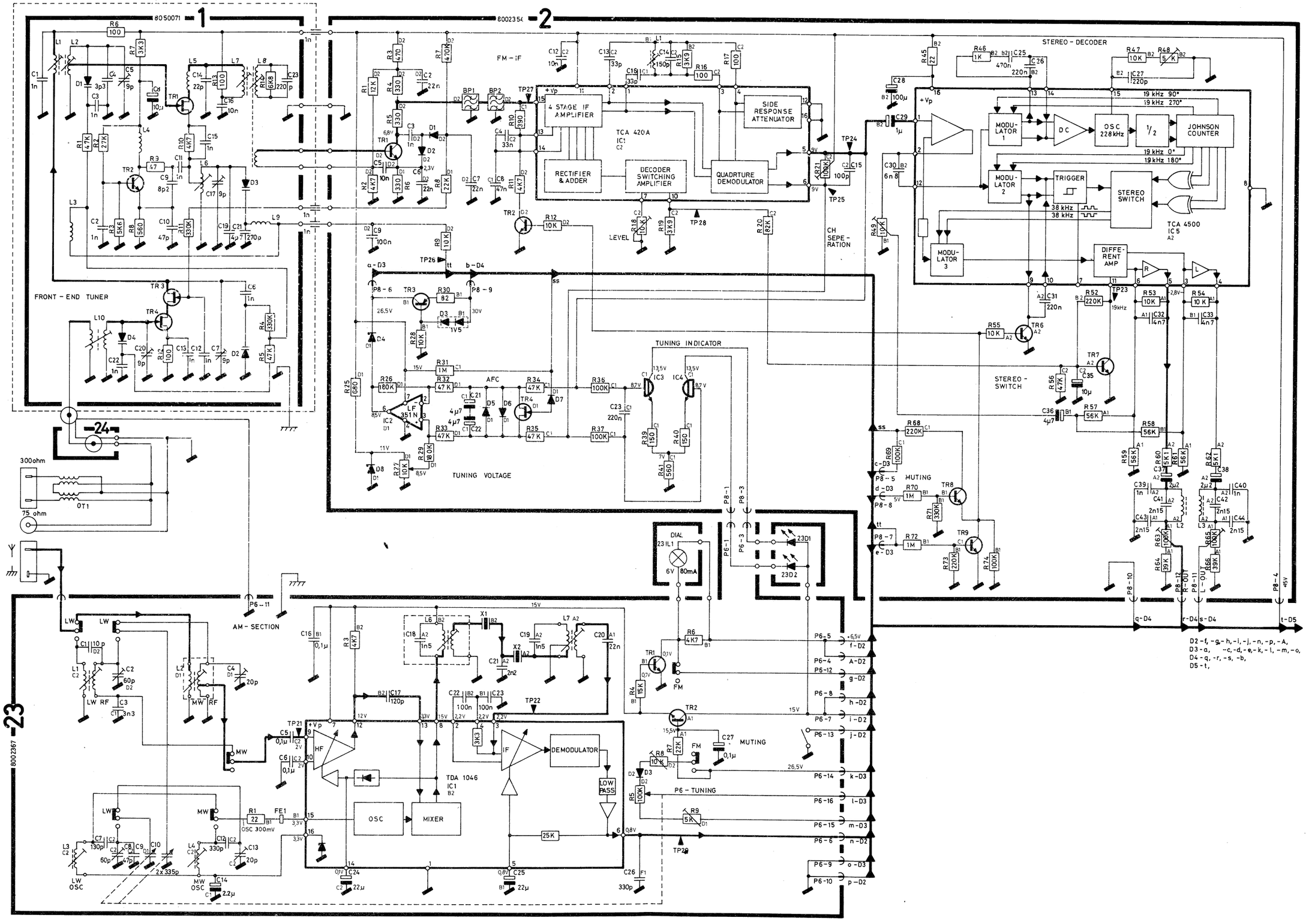
PICK-UP ARM 2850101

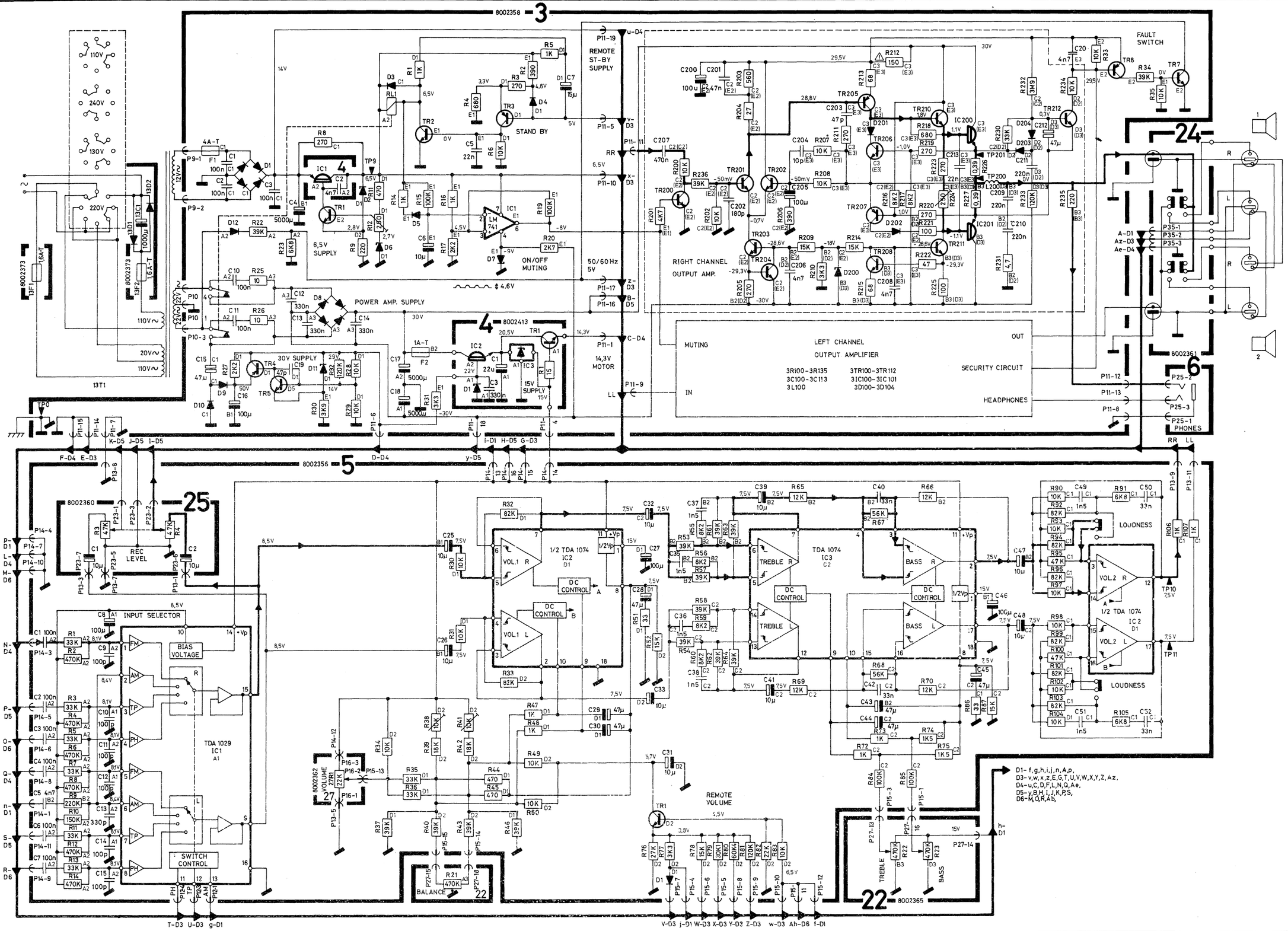


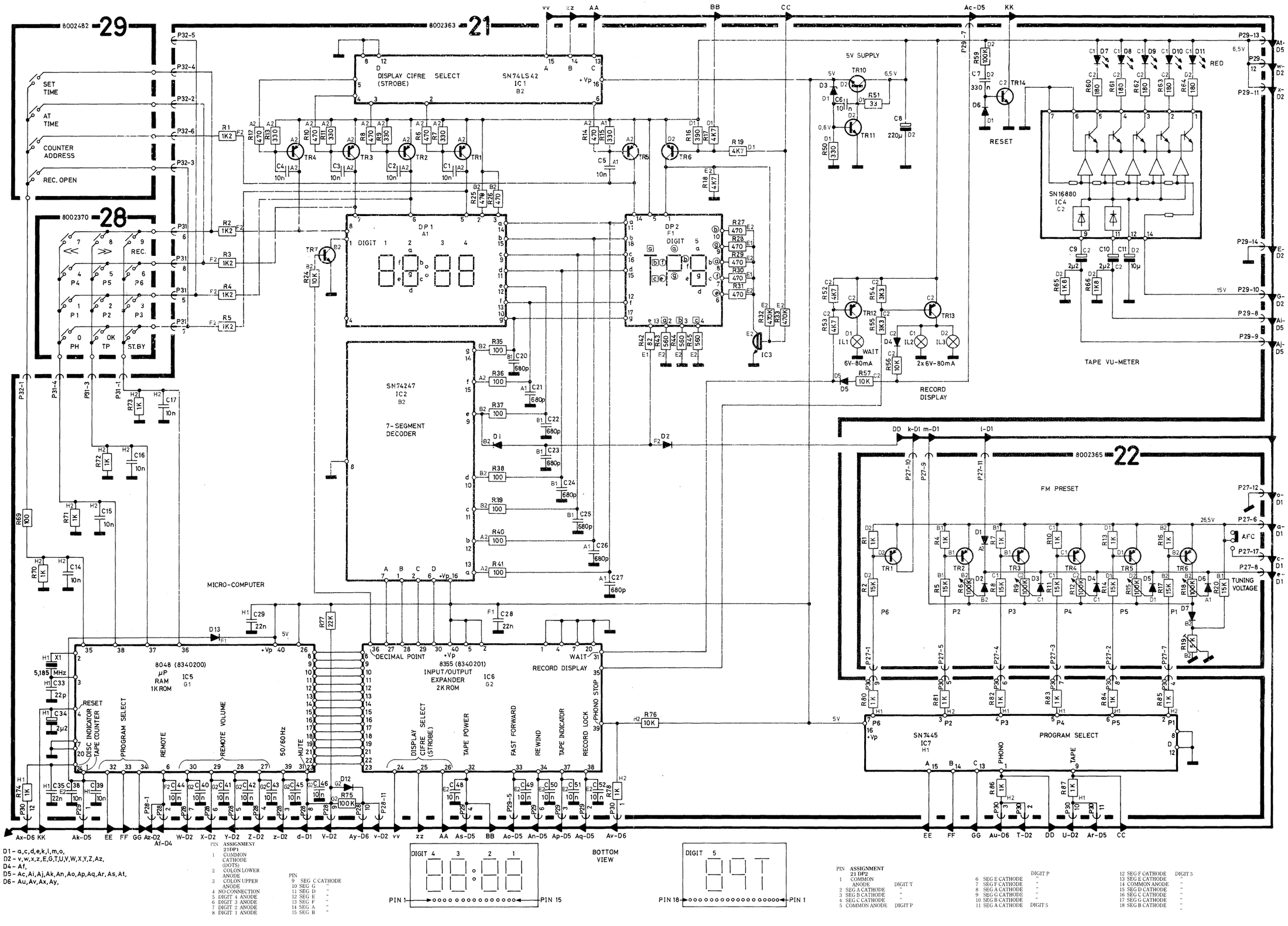
4001	2070035	Gevindstift M3 x 6	Threaded pin M3 x 6
4002	3342076	Kontravægt	Counterweight
4003	2576114	Justerbøsning	Adjustment bushing

Øvrige dele se side 4-5/Other parts, see page 4-5

Bang&Olufsen




8002358 3
110V
240V
130V
220V
4A-T
16A-T
1,6A-T
1000µ
12V~
22V~
20V~
110V~
13T1
13T2
13C1
13D1
13F1
13F2
8002373
P9-1
P9-2
P10
P10-3
TP0
IC1 4
LM 741
TR1
TR2
TR3
TR4
TR5
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
6,5V SUPPLY
STAND BY
ON/OFF MUTING
POWER AMP. SUPPLY
30V SUPPLY
REMOTE ST-BY SUPPLY
50/60Hz 5V
14,3V MOTOR
P11-19
P11-5
P11-11
P11-10
P11-17
P11-16
P11-1
P11-9
u-D4
V-D3
RR
X-D3
Z-D3
B-D5
C-D4
LL
FAULT SWITCH
TR7
TR8
TR200
TR201
TR202
TR203
TR204
TR205
TR206
TR207
TR208
TR210
TR211
TR212
IC200
IC201
D200
D201
D202
D203
D204
RIGHT CHANNEL OUTPUT AMP.
MUTING
IN
LEFT CHANNEL OUTPUT AMPLIFIER
3R100-3R135
3C100-3C113
3L100
3TR100-3TR112
3IC100-3IC101
3D100-3D104
OUT
SECURITY CIRCUIT
HEADPHONES
8002361 6
P25-2
P25-3
P25-1 PHONES
A-D1
Az-D3
Ae-D4
P35-1
P35-2
P35-3
24
1
2
L
R
8002413 4
IC2
IC3
TR1
1/2 TDA 1074 IC2 D1
TDA 1074 IC3 C2
VOL.1 R
VOL.1 L
VOL.2 R
VOL.2 L
TREBLE R
TREBLE L
BASS R
BASS L
DC CONTROL
LOUDNESS
REMOTE VOLUME
8002362 27
VOLUME
8002356 5
INPUT SELECTOR
BIAS VOLTAGE
SWITCH CONTROL
TDA 1029 IC1 A1
REC LEVEL
BALANCE
TREBLE
BASS
8002365 22
25
TP9
TP10
TP11
P14-4
P14-7
P14-10
P14-3
P14-5
P14-6
P14-8
P14-1
P14-11
P14-9
P13-8
P13-9
P13-11
P23-1
P23-3
P23-5
P23-7
P23-2
P23-4
P23-6
P12-4
P12-3
P12-2
P12-1
P16-3
P16-2
P16-1
P15-13
P14-12
P13-5
P27-15
P27-18
P27-13
P27-14
P15-1
P15-3
P15-7
P15-4
P15-6
P15-5
P15-8
P15-9
P15-10
P15-11
P15-12
K-D5 J-D5 I-D5
F-D4 E-D3
D-D4
i-D1 H-D5 G-D3
y-D5
N-D4
P-D5
O-D6
Q-D4
n-D1
S-D5
R-D6
P-D1
L-D4
M-D6
T-D3 U-D3 g-D1
V-D3 j-D1 W-D3 X-D3 Y-D3 Z-D3 w-D3 Ab-D6 f-D1
h-D1
D1- f,g,h,i,j,n,A,p,
D3- v,w,x,z,E,G,T,U,V,W,X,Y,Z,Az,
D4- u,C,D,F,L,N,Q,Ae,
D5- y,B,H,I,J,K,P,S,
D6- M,O,R,Ab,



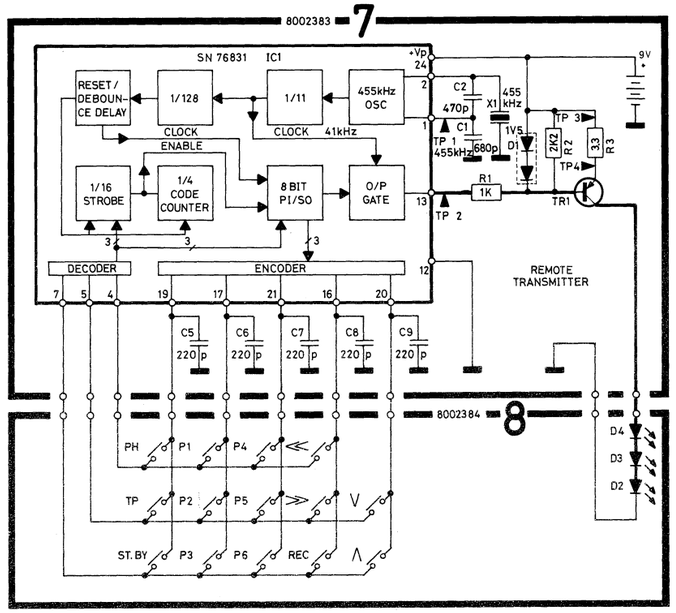
D1 - a,c,d,e,k,l,m,o,
D2 - v,w,x,z,E,G,T,U,Y,W,X,Y,Z,Az,
D4 - Af,
D5 - Ac,Ai,Aj,Ak,An,Ao,Ap,Aq,Ar,As,At,
D6 - Au,Av,Ax,Ay,

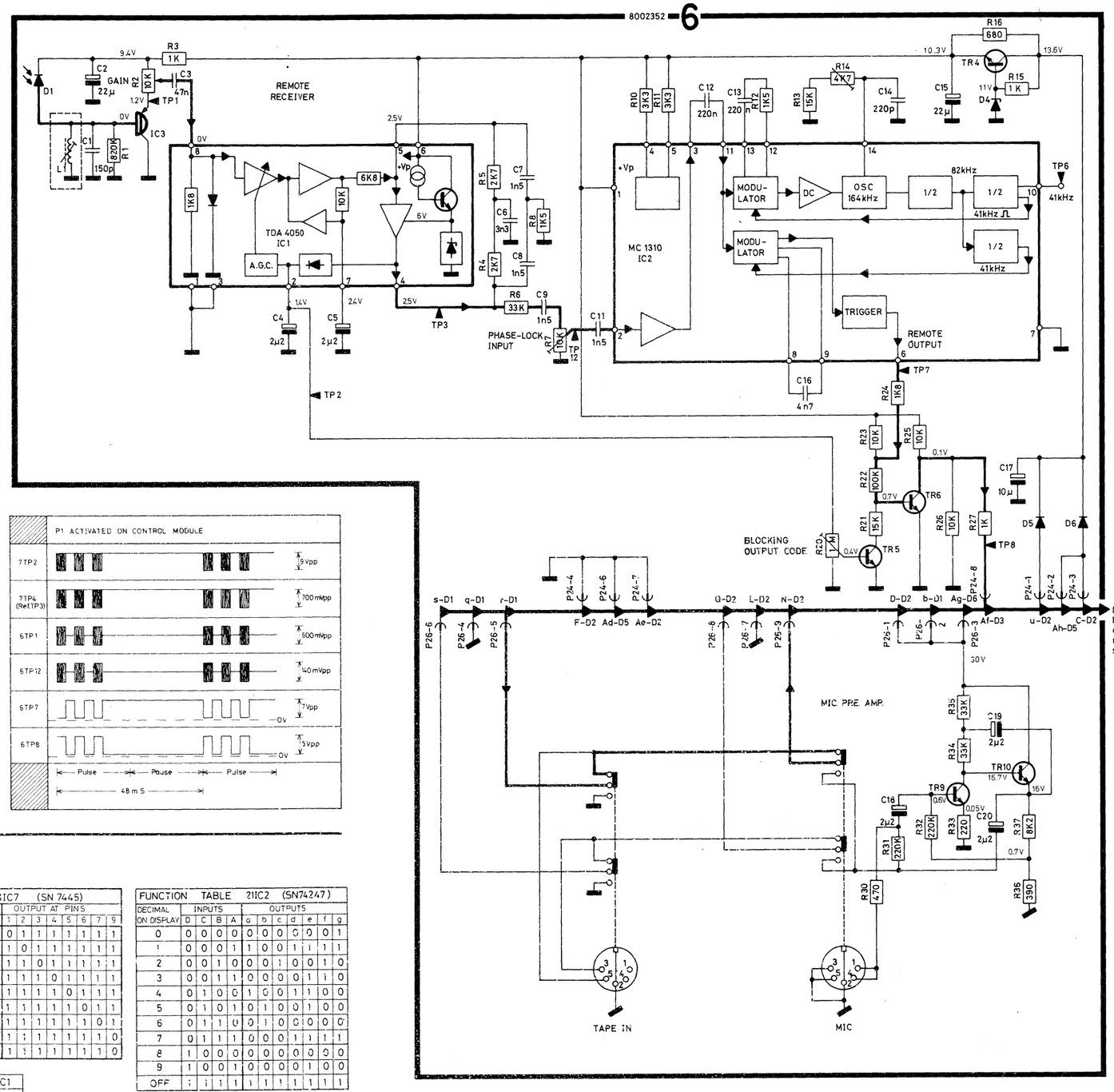
PIN	ASSIGNMENT 21DP1
1	COMMON CATHODE (DOTS)
2	COLON LOWER ANODE
3	COLON UPPER ANODE
4	NO CONNECTION
5	DIGIT 4 ANODE
6	DIGIT 3 ANODE
7	DIGIT 2 ANODE
8	DIGIT 1 ANODE

PIN	
9	SEG C CATHODE
10	SEG G "
11	SEG D "
12	SEG E "
13	SEG F "
14	SEG A "
15	SEG B "

BOTTOM VIEW

PIN	ASSIGNMENT 21DP2	
1	COMMON ANODE	DIGIT T
2	SEG A CATHODE	"
3	SEG B CATHODE	"
4	SEG C CATHODE	"
5	COMMON ANODE	DIGIT P
6	SEG E CATHODE	DIGIT P "
7	SEG F CATHODE	"
8	SEG A CATHODE	"
9	SEG G CATHODE	"
10	SEG B CATHODE	"
11	SEG A CATHODE	DIGIT 5
12	SEG F CATHODE	DIGIT 5
13	SEG E CATHODE	"
14	COMMON ANODE	"
15	SEG D CATHODE	"
16	SEG C CATHODE	"
17	SEG G CATHODE	"
18	SEG B CATHODE	"





CONTROL MODULE	PINS SHORTED ON 7IC1								OUTPUT CODE FROM 7IC1 START							
FUNCTION	4	5	7		16	17	19	20	21							
V		X						X		1	1	0	1	0	1	0	0
Λ			X					X		1	1	0	1	0	0	1	0
<<	X				X					1	1	0	0	1	0	0	0
>>		X			X					1	1	0	0	0	1	0	0
REC.			X		X					1	1	0	0	0	0	1	0
P4	X								X	1	0	1	1	1	0	0	0
P5		X							X	1	0	1	1	0	1	0	0
P6			X						X	1	0	1	1	0	0	1	0
P1	X					X				1	0	1	0	1	0	0	0
P2		X				X				1	0	1	0	0	1	0	0
P3			X			X				1	0	1	0	0	0	1	0
PH	X						X			1	0	0	1	1	0	0	0
TP		X					X			1	0	0	1	0	1	0	0
ST-BY			X				X			1	0	0	1	0	0	1	0

FUNCTION TABLE FOR DIAGRAM 3

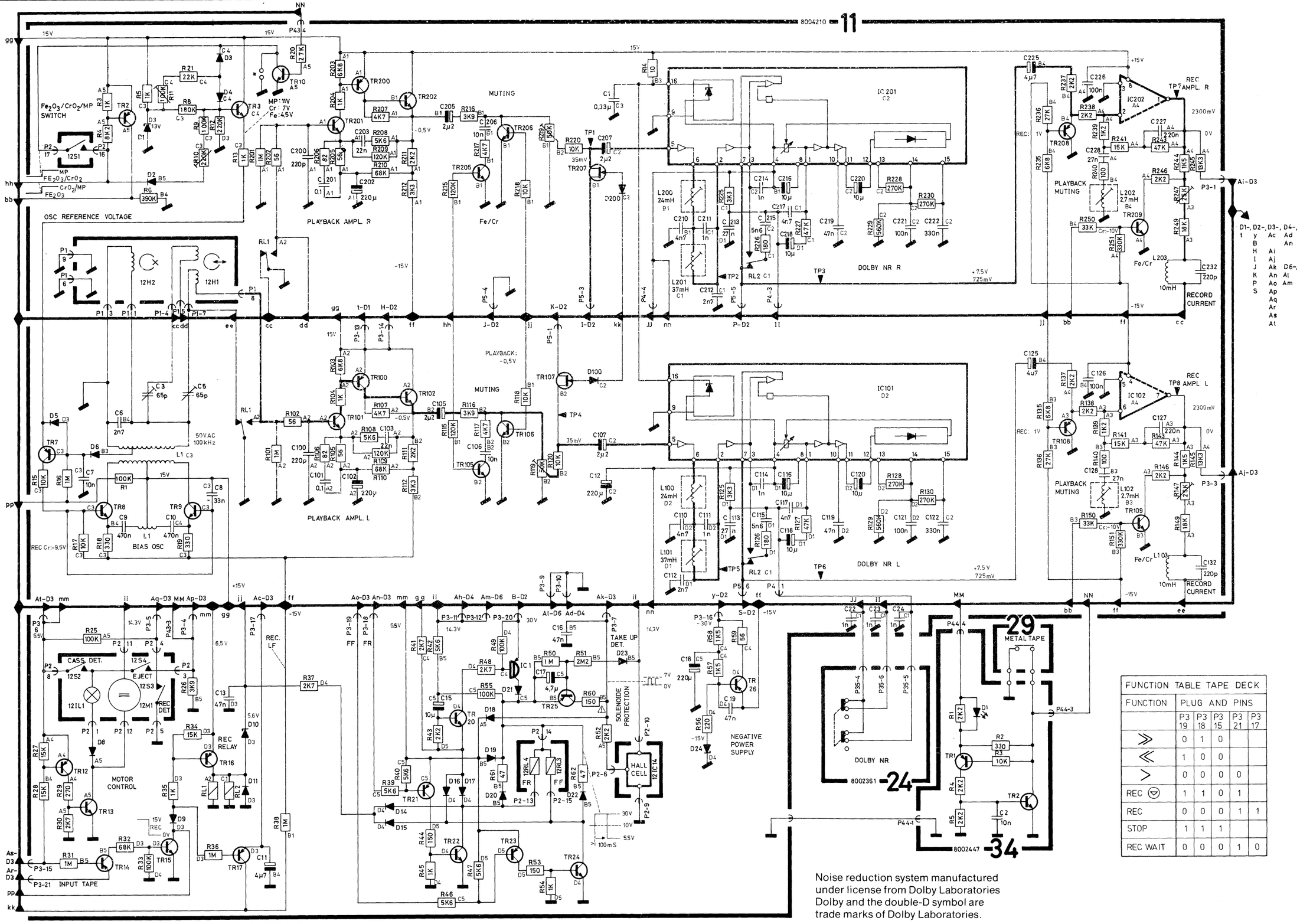
FUNCTION TABLE MICRO-COMPUTER																				
	CONDITIONS				FUNCTION	RESULTS														
	21IC5		21IC6			21IC5								21IC6						
PIN	24	37	38			27	28	29	30	31	32	33	34	32	33	34	35	39		
	0				PHONO					1	0	0	0	1	1	1	1	0		
					P1					1	1	0	0	1	1	1	1	1		
					P2					1	0	1	0	1	1	1	1	1		
					P3					1	1	1	0	1	1	1	1	1		
					P4					1	0	0	1	1	1	1	1	1		
					P5					1	1	0	1	1	1	1	1	1		
					P6					1	0	1	1	1	1	1	1	1		
		1			TAPE					1	1	1	1	0	0	0	1	1		
					STAND BY					0	1	1	1	1	1	1	1	1		
			1		REC. OPEN															
		1			COUNTER ADDR.									0	1	1				
					P1-REC. PAUSE					1	1	0	0	0	1	1	1/0	1		
					P1-REC.					1	1	0	0	0	0	0	0	1		
		1			>>									0	0	1	1			
		1			<<									0	1	0	1			
					MIN. VOL. (Remote)	0	0	0	0											
					MAX. VOL. (Remote)	1	1	1	1											

FUNCTION TABLE 21IC7 (SN 7445)											
FUNCTION	INPUTS				OUTPUT AT PINS						
	D	C	B	A	1	2	3	4	5	6	7	9
PHONO	0	0	0	0	0	1	1	1	1	1	1	1
P 1	0	0	0	1	1	0	1	1	1	1	1	1
P 2	0	0	1	0	1	1	0	1	1	1	1	1
P 3	0	0	1	1	1	1	1	0	1	1	1	1
P 4	0	1	0	0	1	1	1	1	0	1	1	1
P 5	0	1	0	1	1	1	1	1	1	0	1	1
P 6	0	1	1	0	1	1	1	1	1	1	0	1
TAPE	0	1	1	1	1	1	1	1	1	1	1	0
ST-BY	0	1	1	1	1	1	1	1	1	1	1	0

FUNCTION TABLE 21IC1 (SN74LS42)								
INPUTS				OUTPUT AT PINS				
D	C	B	A	2	3	4	5	6
0	0	0	1	0	1	1	1	1
0	0	1	0	1	0	1	1	1
0	0	1	1	1	1	0	1	1
0	1	0	0	1	1	1	0	1
0	1	0	1	1	1	1	1	0

FUNCTION TABLE 21IC2 (SN74247)											
DECIMAL ON DISPLAY	INPUTS				OUTPUTS						
	D	C	B	A	a	b	c	d	e	f	g
0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	1	1	0	0	1	1	1	1
2	0	0	1	0	0	0	1	0	0	1	0
3	0	0	1	1	0	0	0	0	1	1	0
4	0	1	0	0	1	0	0	1	1	0	0
5	0	1	0	1	0	1	0	0	1	0	0
6	0	1	1	0	0	1	0	0	0	0	0
7	0	1	1	1	0	0	0	1	1	1	1
8	1	0	0	0	0	0	0	0	0	0	0
9	1	0	0	1	0	0	0	0	1	0	0
OFF	1	1	1	1	1	1	1	1	1	1	1

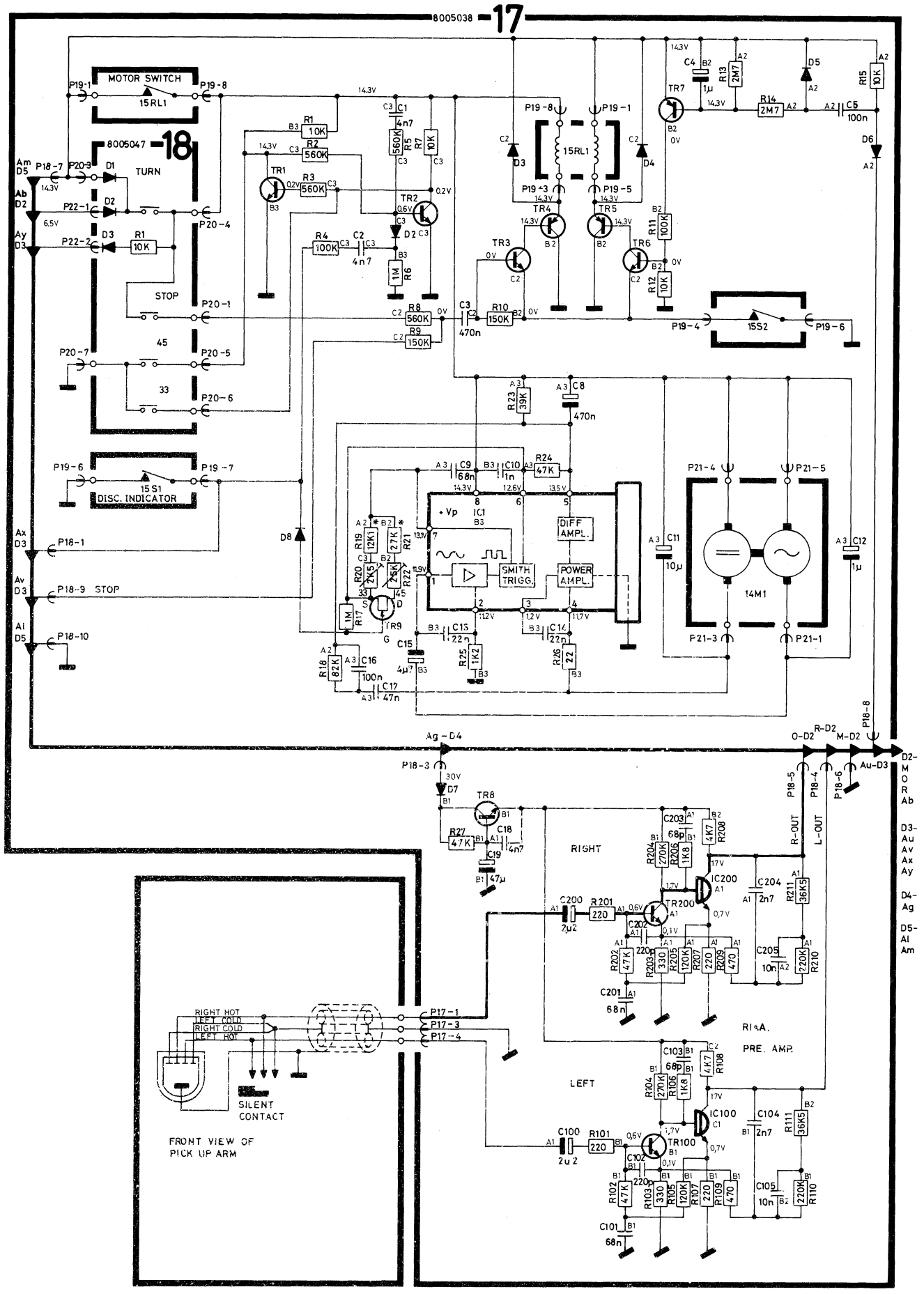
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FUNCTION TABLE TAPE DECK					
FUNCTION	PLUG AND PINS				
	P3 19	P3 18	P3 15	P3 21	P3 17
≫	0	1	0		
≪	1	0	0		
>	0	0	0	0	
REC ⊛	1	1	0	1	
REC	0	0	0	1	1
STOP	1	1	1		
REC WAIT	0	0	0	1	0

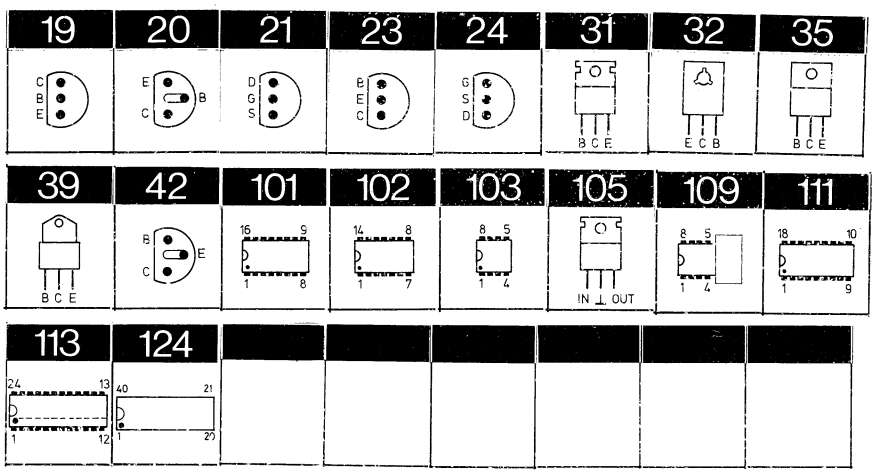
Noise reduction system manufactured under license from Dolby Laboratories Dolby and the double-D symbol are trade marks of Dolby Laboratories.

* TO BE SHORTED, WHEN PC. ARE USED IN SETS, WITHOUT METAL TAPE SWITCH.


8005038 -17
8005047 -18
MOTOR SWITCH
15RL1
DISC. INDICATOR
15S1
15S2
TURN
STOP
45
33
DIFF AMPL.
SMITH TRIGG.
POWER AMPL.
14M1
RIGHT
LEFT
R.I.A.A. PRE. AMP.
SILENT CONTACT
FRONT VIEW OF PICK UP ARM
RIGHT HOT
LEFT COLD
RIGHT COLD
LEFT HOT

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LIST OF TRANSISTORSs AND IC's

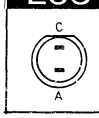


1TR1	8320136	**21**	TIS88/3C2 green
		21	SPF 2060
1TR2	8320112	**23**	BF 495
		23	BF 255
1TR3	8320119	**21**	TIS88A
1TR4			
2TR1	8320311	**42**	BF 240
2TR2	8320097	**20**	BC 547B
2TR3	8320152	**20**	BC 557B
2TR4	8320396	**24**	2N 5639
		24	MPF 4392
2TR6	8320097	**20**	BC 547B
2TR7			
2TR8			
2TR9	8320377	**20**	BC 547C
2IC1	8340033	**101**	TCA 420A
2IC2	8340168	**103**	LF 351N
2IC3	8340054	**19**	MPS A13
2IC4			
2IC5	8340134	**101**	TCA 4500
3TR1	8320097	**20**	BC 547B
3TR2	8320295	**20**	BC337 -25/18
3TR3	8320152	**20**	BC 557B
3TR4	8320241	**32**	BD 138/W
3TR5	8320237	**20**	BC 546B
3TR7	8320097	**20**	BC 547B
3TR8	8320152	**20**	BC 557B
3TR100/200	8320366	**19**	MPS A16
3TR101/201	8320377	**20**	BC 547C
3TR102/202			
3TR103/203	8320097	**20**	BC 547B
3TR104/204			
3TR105/205	8320365	**19**	MPS H54
3TR106/206	8320097	**20**	BC 547B
3TR107/207	8320152	**20**	BC 557B
3TR108/208	8320097	**20**	BC 547B
3TR110/210	8320321	**19**	MPS A06
3TR111/211			
3TR112/212	8320237	**20**	BC 546B
3IC1	8340141	**103**	LM 741CN
3IC100/200	8340132	**39**	BDV 65A
3IC101/201	8340133	**39**	BDV 64A
4TR1	8320429	**32**	BD 435
4IC1	8340118	**31**	BDX 34A
		35	TEO 1089
		35	FJ 2501
4IC2	8340117	**31**	BDX 33A
		35	TEO 1088
		35	FJ 3001

4IC3	8340064	**105**	LM 340T-15
		105	µA 7815CU
		105	µA 7815UC
		105	MC 7815CT
		105	µA 7815CKC
5TR1	8320097	**20**	BC 547B
5IC1	8340188	**101**	TDA 1029
5IC2	8340187	**111**	TDA 1074
5IC3			
6TR4	8320329	**20**	BC338/25
6TR5	8320097	**20**	BC 547B
6TR6			
6TR9			
6TR10			
6IC1	8340193	**103**	TDA 4050
6IC2	8340103	**102**	CA 1310E
		102	LM 1310N
6IC3	8340025	**20**	BC 516
		19	MPS A65
		19	SPS 5431
7TR1	8320331	**20**	BC 328-25/18
7IC1	8340191	**113**	SN76831 M-24
11TR2	8320152	**20**	BC 557B
11TR3	8320097	**20**	BC 547B
11TR7	8320152	**20**	BC 557B
11TR8	8320237	**20**	BC 546B
11TR9			
11TR10	8320097	**20**	BC 547B
11TR12	8320152	**20**	BC 557B
11TR13	8320429	**32**	BD 435
11TR14	8320152	**20**	BC 557B
11TR15	8320097	**20**	BC 547B
11TR16	8320331	**20**	BC 328-25/18
11TR17	8320152	**20**	BC 557B
11TR20	8320097	**20**	BC 547B
11TR21	8320152	**20**	BC 557B
11TR22	8320427	**32**	BD 437
11TR23	8320152	**20**	BC 557B
11TR24	8320427	**32**	BD 437
11TR25	8320152	**20**	BC 557B
11TR26	8320428	**32**	BD 438
11TR100/200	8320152	**20**	BC 557B
11TR101/201	8320344	**20**	BC 550B
11TR102/202	8320097	**20**	BC 547B
11TR105/205			
11TR106/206			
11TR107/207	8320396	**24**	2N 5639
		24	MPF 4392
11TR108/208	8320152	**20**	BC 557B
11TR109/209	8320366	**19**	MPS A16
11IC1	8340184	**32**	BD 676
11IC101/201	8340183	**101**	LM 1011AN
11IC102/202	8340195	**103**	LF 353BN
12IC14	8004216		Hall-element
17TR1	8320108	**20**	BC 548B
17TR2			
17TR3			
17TR4	8320331	**20**	BC328-25/18
17TR5			
17TR6	8320108	**20**	BC 548B
17TR7	8320104	**20**	BC 558B
17TR8	8320097	**20**	BC 547B
17TR9	8320396	**24**	2N 5639
		24	4PF 4392
17TR100/200	8320344	**20**	BC 550B
17IC1	8340108	**109**	MHN-3P2-RDS
17IC100/200	8340054	**19**	MPS A13
		19	TPS A13
21TR1	8320331	**20**	BC 328-25/18
21TR2			
21TR3			
21TR4			
21TR5			
21TR6	8320104	**20**	BC 558B
21TR7	8320108	**20**	BC 548B
21TR10	8320368	**31**	BD 533
21TR11	8320329	**20**	BC 338/25
21TR12	8320331	**20**	BC 328-25/18
21TR13			
21TR14	8320108	**20**	BC 548B
21IC1	8340199	**101**	SN74LS42
21IC2	8340156	**101**	SN74247N
21IC3	8340054	**19**	MPS A13
		19	TPS A13
21IC4	8340104	**102**	SN 16880N
21IC5	8340200	**124**	µC 8048
21IC6	8340201	**124**	Exp. 8355
21IC7	8340192	**101**	SN 7445N
22TR1	8320152	**20**	BC 557B
22TR2			
22TR3			
22TR4			
22TR5			
22TR6			
23TR1	8320329	**20**	BC 338/25
23TR2	8320237	**20**	BC 546B
23IC1	8340196	**101**	TDA 1046
34TR1	8320152	**20**	BC 557B
34TR2	8320097	**20**	BC 547B

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LIST OF DIODES, ETC.

203	209	215	217	219	220		
							

1D1	8300041	**209**	BB103green
1D2			
1D3	8300050	**209**	BB 103blue
1D4			
2D1	8300058	**217**	SFD 184
2D2		**215**	1N 4148
		209	1N 4148
2D3	8300056	**209**	ZTE 1.5 10%
2D4	8340190	**209**	ZTK 18
2D5	8300058	**217**	SFD 184
2D6		**215**	1N 4148
2D7		**209**	1N 4148
2D8	8340189	**209**	ZTK 11
3D1	8300297		B80C3700/ 2200
3D2	8300135	**209**	ZPD3.3V 5%
		209	BZX 79 3.3V
		209	BZX 83 3.3V
3D3	8300058	**217**	SFD 184
3D4		**215**	1N 4148
3D5		**209**	1N 4148
3D6	8300222	**209**	ZPD2.7V 5%
		209	BZX 83 2.7V
3D7	8300028	**209**	ZPD9.1V 5%
		209	BZX 79 9.1V
		209	BZX 83 9.1V
3D8	8300275		B80C5000/ 3300
3D9	8300023	**209**	1N 4002RL
3D10			
3D11	8300313	**209**	ZPD 15V 2%
		209	BZX 79 15V 2%
		209	BZX 83 15V 2%

3D12	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
3D100/200	8300029	**209**	ZPD 12 V 5%
		209	BZX 79 12V
		209	BZX 83 12V
3D101/201	8300058	**217**	SFD 184
3D102/202		**215**	1N 4148
3D103/202		**209**	1N 4148
3D104/204			
4D1	8300033	**209**	ZPD 22V 5%
		209	BZX 79 22V
		209	BZX 83 22V
5D1	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
6D1	8330004	**219**	SFH 205
6D4	8300326	**209**	ZPD 11V 5%
		209	BZX 83 C11
		209	Bzx 79 C11
6D5	8300023	**209**	1N 4002RL
6D6			
7D1	8300056	**209**	ZTE 1.5 10%
8D2	8330022	**203**	LD 271
8D3			V-290-P
8D4			
11D1	8300029	**209**	ZPD 12V 5%
		209	BZX 79 12 V
		209	BZX 83 12 V
11D2	8300058	**217**	SFD 184
11D3		**215**	1N 4148
11D4		**209**	1N 4148
11D5			
11D6			
11D8	8300023	**209**	1N 4002RL
11D9	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148

11D10	8300128	**209**	ZPD5.6V 5%
		209	BZX 79 5.6V
		209	BZX 83 5.6V
11D11	8300023	**209**	1N 4002RL
11D14	8300058	**217**	SFD 184
11D15		**215**	1N 4148
11D16		**209**	1N 4148
11D17			
11D18			
11D19	8300023	**209**	1N 4002RL
11D20			
11D21			
11D22			
11D23	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
11D24	8300053	**209**	ZPD 15 5%
		209	BZX 79 15V
		209	BZX 83 15V
11D100/200	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
13D1	8300023	**209**	1N 4002RL
13D2			
17D1	8300058	**217**	SFD 184
17D2		**215**	1N 4148
17D3		**209**	1N 4148
17D4			
17D5			
17D6			
17D7			
17D8			
18D1	8300023	**209**	1N 4002RL
18D2			
18D3	8300058	**217**	SFD 184
21D1		**215**	1N 4148
21D2		**209**	1N 4148
21D3	8300309	**209**	ZPD 4.7 2%
		209	BZX 83 4.7V 2%
		209	BZX 79 4.7V 2%
21D4	8300058	**217**	SFD 184
21D5		**215**	1N 4148
21D6		**209**	1N 4148
21D7	8330010	**220**	CQY 73 N/K
21D8			
21D9			
21D10	8330009	**220**	CQY 41 N/N
21D11			
21D12	8300058	**217**	SFD 184
21D13		**215**	1N 4148
		209	1N 4148
21DP1	8330028		FCS 8499
21DP2	8330029		FNA 8399
22D1	8300058	**217**	SFD 184
22D2		**215**	1N 4148
22D3		**209**	1N 4148
22D4			
22D5			
22D6			
22D7			
23D1	8330009	**220**	CQY 41 N/N
23D2			
23D3	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
34D1	8330001		5075B

FM 8002354, PC2

RR39	5010057	150 ohms ±5% 1/8W
R40	5010057	150 ohms ±5% 1/8W

Øvrige dele se side 3-1/Other parts, see page 3-1

Remote, 8002352 PC6

R24	5010066	1.8 kohms ±5% 1/8W	C14	4101007	220 pF ±5% 63V

Remote transmitter 8002383, PC7

C1	4010024	470 pF ±10% 63V
C2	4010024	470 pF ±10% 63V

Øvrige dele se side 3-4/Other parts, see page 3-4

Tape 8004210, PC11

R1	5010049	100 kohms ±5% 1/8W	R54	5010040	1 kohms ±5% 1/8W
R3	5010040	1 kohms ±5% 1/8W	R55	5010049	100 kohms ±5% 1/8W
R4	5010154	8.2 kohms ±5% 1/8W	R56	5010092	220 ohms ±5% 1/8W
R5	5010040	1 kohms ±5% 1/8W	R57	5001032	1.5 kohms ±10% 1/2W
R6	5010073	390 kohms ±5% 1/8W	R58	5001032	1.5 kohms ±10% 1/2W
R8	5010072	180 kohms ±5% 1/8W	R59	5010151	56 ohms ±5% 1/8W
R9	5010049	100 kohms ±5% 1/8W	R60	5010057	150 ohms ±5% 1/8W
R10	5370156	250 kohms ±20%	R61	5010742	47 ohms ±5% 1/8W
R11	5370128	100 kohms ±20%	R62	5010742	47 ohms ±5% 1/8W
R12	5010120	220 kohms ±5% 1/8W	R201	5010054	1 Mohms ±5% 1/8W
R13	5010040	1 kohms ±5% 1/8W	R202	5010151	56 ohms ±5% 1/8W
R14	5010506	10 ohms ±5% 1/8W	R203	5010052	6.8 kohms ±5% 1/8W
R15	5010059	10 kohms ±5% 1/8W	R204	5010040	1 kohms ±5% 1/8W
R16	5010054	1 Mohms ±5% 1/8W	R205	5010151	56 ohms ±5% 1/8W
R17	5010059	10 kohms ±5% 1/8W	R206	5010056	82 ohms ±5% 1/8W
R18	5010044	330 ohms ±5% 1/8W	R207	5010048	4.7 kohms ±5% 1/8W
R19	5010044	330 ohms ±5% 1/8W	R208	5010041	5.6 kohms ±5% 1/8W
R20	5010141	27 kohms ±5% 1/8W	R209	5010047	120 kohms ±5% 1/8W
R21	5010079	22 kohms ±5% 1/8W	R210	5010062	68 kohms ±5% 1/8W
R25	5010049	100 kohms ±5% 1/8W	R211	5010064	2.2 kohms ±5% 1/8W
R26	5010069	3.9 kohms ±5% 1/8W	R212	5010076	3.3 kohms ±5% 1/8W
R27	5010053	15 kohms ±5% 1/8W	R215	5010047	120 kohms ±5% 1/8W
R28	5010053	15 kohms ±5% 1/8W	R216	5010069	3.9 kohms ±5% 1/8W
R29	5010000	270 ohms ±5% 1/8W	R217	5010048	4.7 kohms ±5% 1/8W
R30	5010298	2.7 kohms ±5% 1/8W	R218	5010059	10 kohms ±5% 1/8W
R31	5010054	1 Mohms ±5% 1/8W	R219	5370061	50 kohms ±20%
R32	5010062	68 kohms ±5% 1/8W	R220	5010059	10 kohms ±5% 1/8W
R33	5010049	100 kohms ±5% 1/8W	R225	5010265	3.3 kohms ±2% 1/4W
R34	5010053	15 kohms ±5% 1/8W	R226	5010362	180 ohms ±5% 1/8W
R35	5010040	1 kohms ±5% 1/8W	R227	5010048	4.7 kohms ±5% 1/8W
R36	5010054	1 Mohms ±5% 1/8W	R228	5010083	270 kohms ±5% 1/8W
R37	5010298	2.7 kohms ±5% 1/8W	R229	5010071	560 kohms ±5% 1/8W
R38	5010054	1 Mohms ±5% 1/8W	R230	5010083	270 kohms ±5% 1/8W
R39	5010041	5.6 kohms ±5% 1/8W	R235	5010052	6.8 kohms ±5% 1/8W
R40	5010041	5.6 kohms ±5% 1/8W	R236	5010141	27 kohms ±5% 1/8W
R41	5010298	2.7 kohms ±5% 1/8W	R237	5010064	2.2 kohms ±5% 1/8W
R42	5010041	5.6 kohms ±5% 1/8W	R238	5010064	2.2 kohms ±5% 1/8W
R43	5010064	2.2 kohms ±5% 1/8W	R239	5010153	1.2 kohms ±5% 1/8W
R44	5010057	150 ohms ±5% 1/8W	R240	5010065	100 ohms ±5% 1/8W
R45	5010040	1 kohms ±5% 1/8W	R241	5010053	15 kohms ±5% 1/8W
R46	5010041	5.6 kohms ±5% 1/8W	R243	5010045	47 kohms ±5% 1/8W
R47	5010041	5.6 kohms ±5% 1/8W	R244	5010247	1.5 kohms ±5% 1/8W
R48	5010298	2.7 kohms ±5% 1/8W	R245	5020095	13.3 kohms ±1% 1/8W
R49	5010049	100 kohms ±5% 1/8W	R246	5010064	2.2 kohms ±5% 1/8W
R50	5010054	1 Mohms ±5% 1/8W	R247	5370173	25 kohms ±20%
R51	5010245	2.2 Mohms ±5% 1/8W	R249	5010135	18 kohms ±5% 1/8W
R52	5010064	2.2 kohms ±5% 1/8W	R250	5010075	33 kohms ±5% 1/8W
R53	5010057	150 ohms ±5% 1/8W	R251	5010117	330 kohms ±5% 1/8W

C1	4130106	330 nF ±20% 100V	C9	4130114	470 nF ±10% 100V
C3	4340003	65 pF	C10	4130144	470 nF ±10% 100V
C5	4340003	65 pF	C11	4201061	4.7 µF 63V
C6	4100141	2.7 nF ±5% 630V	C12	4200097	200 µF 16V
C7	4010041	10 nF -20+80% 40V	C13	4030015	47 µF -20+80% 16V
C8	4130110	33 nF ±20% 250V	C15	4201065	10 µF 63V

C16	4130087	47 nF ±10% 250V	C212	4100076	2.7 nF ±2.5% 630V
C17	4200108	4.7 µF ±20% 25V	C213	4130166	27 nF ±5% 250V
C18	4200299	220 µF 40V	C214	4010027	1 nF ±10% 100V
C19	4030015	47 nF -20+80% 16V	C215	4100049	5.6 nF ±1% 63V
C22	4010027	1 nF ±10% 100V	C216	4200342	10 µF -10+50% 63V
C23	4010027	1 nF ±10% 100V	C217	4100059	4.7 nF ±2.5% 63V
C24	4010027	1 nF ±10% 100V	C218	4200342	10 µF -10+50% 63V
C200	4010021	220 pF ±10% 100V	C219	4130087	47 nF ±10% 250V
C201	4130107	100 nF ±10% 250V	C220	4201061	10 µF ±2.5% 63V
C202	4200097	220 µF 16V	C221	4130107	100 nF ±10% 250V
C203	4130089	22 nF ±10% 250V	C222	4130106	330 nF ±20% 100V
C205	4201035	2.2 µF -10+50% 63V	C225	4200322	4.7 µF -10+50% 63V
C206	4130109	10 nF ±10% 250V	C226	4130107	100 nF ±10% 250V
C207	4201035	2.2 µF -10+50% 63V	C227	4130104	220 nF ±20% 100V
C210	4100059	4.7 nF ±2.5% 63V	C228	4130166	27 nF ±5% 250V
C211	4101019	1 nF ±5% 63V	C232	4010021	220 pF ±10% 100V

L1	8020338	OSC	L202	8022103	2.7 mH
L200	8022102	24 mH	L203	8022111	10 mH
L201	8022059	37 mH			

RL1	7600050	Relay 6V	RL2	7600050	Relay 6V

P1	7220139	Plug 11/10 pins	7500053	Contact pin
P2	7220183	Plug 17/16 pins	3304050	Screen/housing
P3	7220197	Plug 21/20 pins	3358137	Heat sink
P4	7220122	Plug 4/3 pins	0593070	Solder tag
P5	7220128	Plug 6/5 pins		
P6	7220122	Plug 4/3 pins		

PHONO, 8005038, PC17

R1	5011044	10 kohms 5% 1/4W	R21	5010141	27 kohms ±5% 1/8W
R2	5010071	560 kohms ±5% 1/8W	R22	5370068	25 kohms ±20%
R3	5010071	560 kohms ±5% 1/8W	R23	5010060	39 kohms ±5% 1/8W
R4	5010049	100 kohms ±5% 1/8W	R24	5010045	47 kohms ±5% 1/8W
R5	5010071	560 kohms ±5% 1/8W	R25	5010153	1.2 kohms ±5% 1/8W
R6	5010054	1 Mohms ±5% 1/8W	R26	5010777	22 ohms ±10% 0.7W
R7	5010059	10 kohms ±5% 1/8W	R27	5010045	47 kohms ±5% 1/8W
R8	5010071	560 kohms ±5% 1/8W	R201	5010092	220 ohms ±5% 1/8W
R9	5010063	150 kohms ±5% 1/8W	R202	5010045	47 kohms ±5% 1/8W
R10	5010063	150 kohms ±5% 1/8W	R203	5010044	330 ohms ±5% 1/8W
R11	5010049	100 kohms ±5% 1/8W	R204	5010083	270 kohms ±5% 1/8W
R12	5010059	10 kohms ±5% 1/8W	R205	5010047	120 kohms ±5% 1/8W
R13	5010431	2.7 Mohms ±5% 1/8W	R206	5010066	1.8 kohms ±5% 1/8W
R14	5010431	2.7 Mohms ±5% 1/8W	R207	5010092	220 ohms ±5% 1/8W
R15	5010059	10 kohms ±5% 1/8W	R208	5010048	4.7 kohms ±5% 1/8W
R17	5010054	1 Mohms ±5% 1/8W	R209	5010058	470 ohms ±5% 1/8W
R18	5010091	82 kohms ±5% 1/8W	R210	5010120	220 kohms ±5% 1/8W
R19	5020139	12.1 kohms ±1% 1/8W	R211	5020019	36.5 kohms ±20% 1/8W
R20	5370173	2.5 kohms ±5% 1/8W			

C1	4011022	4.7 nF -20+80% 40V	C15	4200322	4.7 µF -10+50% 63V
C2	4011022	4.7 nF -20+80% 40V	C16	4130103	100 nF ±20% 250V
C3	4130114	470 nF ±10% 100V	C17	4130078	47 nF ±20% 250V
C4	4201057	1 µF 35V	C18	4011022	4.7 nF -20+80% 40V
C5	4130103	100 nF ±20% 250V	C19	4201074	47 µF 40V
C8	4201058	0,47 µF 35V	C200	4201069	2.2 µF ±20% 35V
C9	4100098	68 nF ±2.5% 63V	C201	4130100	68 nF ±10% 250V
C10	4110027	1 nF ±10% 100V	C202	4000029	220 pF ±5% 63V
C11	4200432	10 µF -10+50% 63V	C203	4000019	68 pF ±5% 63V
C12	4201057	1 µF 35V	C204	4010065	2.7 nF ±10% 63V
C13	4010060	22 nF -20+80% 40V	C205	4130109	10 nF ±10% 250V
C14	4010060	22 nF -20+80% 40V			

P17	7220131	Plug 4/3 pins		7500013	Contact pin
P18	7220182	Plug 10/9 pins			
P19	7220130	Plug 8/7 pins			
P20	7220181	Plug 7/6 pins			
P21	7220160	Plug 5/4 pins			
P22	7220195	Plug 2/2 pins			

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MP-Tape indicator 8002447 PC34

R8	5370074	10 kohms ±20%	R9	5370058	5 kohms ±20%
R1	5010064	2.2 kohms ±5% 1/8W	R4	5010064	2.2 kohms ±5% 1/8W
R2	5010044	330 ohms ±5% 1/8W	R5	5010064	2.2 kohms ±5% 1/8W
R3	5010059	10 kohms ±5% 1/8W			
C1	4010041	10 nF -20+80% 40V	C2	4010041	10 nF -20+80% 40V
P44	7220131	Plug 4/3 pins			

Øvrige dele se side 3-8/Other parts, see page 3-8